A DEFENCE
OF
DR. CHARLES T. JACKSON'S CLAIMS
TO THE
DISCOVERY OF ETHERIZATION

BY JOSEPH L. LORD & HENRY C. LORD

1848

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CONTAINING TESTIMONY DISPROVING THE CLAIMS SET UP IN FAVOR OF MR. W. T. G. MORTON, IN THE REPORT OF THE TRUSTEES OF THE MASSACHUSETTS GENERAL HOSPITAL, AND IN NO. 201 OF LITTELL'S LIVING AGE.

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BOSTON:
OFFICE OF LITTELL'S LIVING AGE.
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Hon. Henry W. Ellsworth
with the kind regards
of C. T. Jackson

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THE ETHER CONTROVERSY.

TO THE PUBLIC.

THE writers of these pages are attorneys of Dr. Charles T. Jackson, of Boston. They have been employed by him to investigate the legality and equity of his claims to the recent discovery of the applicability of sulphuric ether, as an agent for safely producing insensibility to pain, during the performance of surgical operations.

It is well known that Dr. Jackson's claim to this discovery, has been drawn in question before the public, by Mr. W. T. G. Morton, a practical dentist of this city. Mr. Morton's counter-claim, and the justification of it by publications proceeding from various sources, to some of which the reader's attention will be requested, are before the public.

The authors perform their duty, without previous acquaintance with the persons whose names have appeared before the public, in this controversy, as parties, counsellors, witnesses, or apologists. They put the case upon its own merits, without bias from any personal, local, or accidental influence.

Since the publication, in June, 1847, of Dr. Martin Gay's able "Statement" of Dr. Jackson's claims to the discovery of etherization, the controversy has essentially changed its character. Mr. Edward Warren, who, it now appears, had a pecuniary interest in Mr. Morton's patent, had, previously to Dr. Gay's "Statement," issued various publications in Mr. Morton's behalf, of such a character as to be deemed by Dr. Jackson and his friends unworthy of an answer. The affidavits published by Mr. Warren, and recently bolstered up by publications from other and able sources, to prove that Mr. Morton had experimented with the ether, before Dr. Jackson communicated to him his first knowledge of its nature, and entrusted him with its first application, were, on their face, so suspicious, and connected with so suspicious circumstances, that it was hoped that the truth would be established by the evidence contained in Dr. Gay's pamphlet, without a sifting and exposure of the affidavits themselves. Accordingly, Dr. Gay, in conformity with his plan not to reflect upon the moral character of any individual, forbore to publish evidence, quite sufficient to justify the strongest suspicion of, if not to prove, the fraud and imposture, now placed, it is submitted, beyond the possibility of dispute.

In this state of the controversy, Nathaniel I. Bowditch, Esq., having been appointed, by the Trustees of the Massachusetts General Hospital, a member of a committee to draw up its annual Report for the year ending with 1847, undertook,—without formal instructions so to do, contrary to all precedent in the history of public charitable institutions, in opposition to the remonstrance of Dr. Gay, and of his declaration to Mr. Bowditch that there was important evidence with which he had not been made acquainted, and which, as he himself admits, he declined to listen to, when Dr. Gay offered to communicate it to him confidentially,—undertook, we repeat, to constitute himself an arbiter in the controversy, and to publish to the world unjust accusations and conclusions against Dr. Jackson, invested with all the *prestige* and authority conferred upon them by his official position. Whatever he might properly do in his private capacity, he had no right to travel out of his way to wield the high influence of a great and noble institution, against a private individual, who had never committed any offence against it, but, on the contrary, had procured for it the most signal benefits.

Mr. Bowditch cannot, under these circumstances, complain, if his qualifications for the self-assumed arbitration, shall be, in his own words, somewhat "strictly scrutinized." We wish, however, first, to state distinctly that we do not hold the Trustees of the Hospital responsible for the truth of his statements, the legitimacy of his inferences, or the justness of his conclusions. Mr. Bowditch has admitted, in a communication published in the Boston Daily Advertiser, since the publication of his Report, that in one instance, to which we shall directly invite the reader's notice, they "relied upon his accuracy;" and from the well-known manner in which the proceedings of a board of trustees, so numerous as theirs, are conducted, we have no doubt that, when they adopted his Report, they relied upon him for the accuracy of the whole, no less than of any particular part. The only error we would impute to them, is that of placing undue confidence in Mr. Bowditch, and suffering him to meddle with the controversy at all. The high moral character of the gentlemen who compose the Board, forbids the suspicion of any intentional injustice towards Dr. Jackson. We cannot doubt that, should they be convinced they have been deceived, by an atrocious conspiracy to break down the character of an innocent man, and rob him of his rights of discovery, rights dearer to scientific men than money, or life itself, they will all, Mr. Bowditch not excepted, repair, as far as possible, the injustice and suffering which have, however unintentionally, been inflicted upon Dr. Jackson.

We now invite attention to a charge of fraud, made by Mr. Bowditch in his Report, and subsequently defended by him in the Daily Advertiser: "On the other hand, Dr. Jackson transmits to Europe, as a paper which he had read before the American Academy, a statement of his claims to this discovery; thus communicating it to the world under an official sanction to which it was not as yet entitled." The groundlessness and injustice of this imputation of fraud, will be seen from the following statement of facts. At the written suggestion of

Hon. Edward Everett, and Dr. J. C. Warren, Dr. Jackson addressed a paper to the American Academy, containing an account of his discovery of etherization. On March the 1st, 1847, the day before it was actually read to the Academy, it was, for the purpose of sending it to Europe by the next steamer, published in the Daily Advertiser, aforesaid, accompanied by some prefatory remarks by the editor, in which he stated, *not that it had been read before*, but that it was "*addressed* by Dr. Jackson *to* the American Academy of Arts and Sciences." The editor of the Advertiser,—in vindicating Dr. Jackson, to use his own words, "from the charge of fraudulent misrepresentation," and himself from "that of being a participator in the fraud,"—in an editorial article, published some weeks after the publication of Mr. Bowditch's Report, and introductory to a communication in which Mr. Bowditch was called upon to retract his charge, uses the following language: "It was not stated in the caption, or in the paper itself, [Dr. Jackson's,] that it had been read before the Academy; nor was there anything that implied that it had been so read. We think it obvious, therefore, that the authors of the Hospital Report must have fallen, through some inadvertence, into a material error in supposing that the paper had been 'communicated to the world,' under a sanction which did not belong to it."

Mr. Bowditch, in a reply to the aforesaid communication, in which he admits that he is responsible for the charge, (this being the instance before alluded to, in which Mr. Bowditch states that the trustees relied wholly upon his accuracy,) attempts to justify it, by arguing that what he had positively affirmed to be a fact, was a "legitimate inference!" This "legitimate inference," as has been seen, is at total variance with the declaration of Hon. Nathan Hale. It is equally at variance with the general practice of scientific men, and of the American Academy itself, as will appear by the following letter of Mr. Everett, whose authority Mr. Bowditch will not call in question.

Cambridge, 15 May, 1848.

My Dear Sir,

I recollect having expressed the opinion decidedly, at one of the monthly meetings of the Academy, that no blame could attach to you for having printed and forwarded to Europe a paper, purporting to be addressed to the American Academy, before the paper had been read to the Academy. No sanction is understood to be given by the Academy to any doctrine or opinion contained in the memoirs submitted to it, nor when they have been read before it, printed at its expense, and bound up with its transactions.

I remain, Dear Sir, with great regard,
faithfully yours,
Edward Everett.

Dr. C. T. Jackson.

We have examined but one out of the many instances of false logic, misstatement of fact, and injustice to Dr. Jackson, with which Mr. Bowditch's Report abounds. The reader will not now doubt, that all of Mr. Bowditch's statements and inferences are to be received with great distrust, and that Mr. Bowditch, in this controversy, has assumed the part of a heated advocate, and not of an impartial judge. In justice to Mr. Bowditch, however, it should be remembered that his position was unfavorable for forming an impartial judgment upon the matters in controversy. Two of the medical gentlemen connected with the Hospital, Dr. Jacob Bigelow, and his son Dr. Henry J. Bigelow, early committed themselves against Dr. Jackson's claims. The latter, during a short absence of Dr. Jackson from the city, early in November, 1846, read before the American Academy, and the Boston Society of Medical Improvement, of both which bodies Dr. Jackson is a member, a paper "promulgating" Dr. Jackson's discovery of etherization to the world; and a few days afterwards, further "promulgated" it, by publishing the same paper in the Boston Medical Journal, making no other allusion to Dr. Jackson, than that he and Mr. Morton were named in the patent as inventors. May not the "promulgator" of etherization naturally have felt some misgivings, lest the self-woven wreath with which he has sought to encircle his brow, might prove to be, not of laurel, but of night-shade; and may not these same misgivings account for the continued activity of his pen in filling the pages of the Journal, and for the entire suppression, by his father, of the name of Dr. Jackson, in his letter to Dr. Boot, of London, under date of Nov. 28, 1846, published, with his son's article aforesaid, in the London Lancet, and ascribing the discovery exclusively to Mr. Morton, at a time when the medical faculty of Boston unanimously allowed the suggestion, at least, of the new application of ether, to have originated with Dr. Jackson? It is but just to Mr. Bowditch to suppose that his mind has probably, however unconsciously, been warped by an influence "behind the throne."

The editors are aware that an attempt has been made to prejudice the public mind against Dr. Jackson's claims to the discovery, by the alleged fact, that he has always declined to submit them to suitable arbitration. We do not propose to inquire how far the advocates of Mr. Morton have succeeded in this effort, nor shall we attempt any review of the correspondence which passed between Dr. Jackson and Mr. Morton upon this subject. It has no connection with the real question to be decided, and, as a mere collateral issue, should be avoided. The fact is simply this: Dr. Jackson originally expressed his willingness to submit his claims to a just arbitration, and he has been anxious to have them carefully scrutinized. His friends, however, and eminent legal counsel in his behalf, have opposed any such reference, upon the ground that he would be unprepared to meet the false testimony which would be manufactured against him, and the event has shown that these apprehensions were well founded.

The public attention is invited to the following statement of facts.

Joseph L. Lord, }
Henry C. Lord, } *Counsellors at Law.*

Court Square, Boston, 18 *May,* 1848.

CHAPTER I.

There is no evidence that previously to the thirtieth of September, A. D. 1846, on which day, according to both Dr. Jackson and Mr. Morton, the first surgical experiment in etherization took place, Mr. Morton was acquainted, more or less, with the idea that sulphuric ether might be rendered available as an agent for safely producing insensibility to pain during the performance of surgical operations, or that previously to the aforesaid date, he had ever made either sulphuric or chloric ether a subject of study or experiment with any such reference.

Mr. Morton asserts, and attempts to prove, the contrary of what we have just stated, by the testimony of Francis Whitman, William P. Leavitt, Thomas R. Spear, Jr., and Grenville G. Hayden.

In the spring of 1847, and "shortly after Mr. Morton claimed etherization as his own discovery, these four witnesses were taken by Mr. Morton into a room in his office, where they were examined together, and their testimony drawn up, the gentleman who was at the head of the surgical department in the office being meanwhile dismissed from their presence."—See affidavit of D. P. Wilson.

Immediately afterwards, these witnesses, "all at once, and for the first time," began to talk of the alleged facts sworn to in their testimony, which was the more noticed from the fact that, during the fall of 1846, and the greater part of the ensuing winter, "Dr. Jackson had been uniformly spoken of by all connected with the office," not excepting these very witnesses, "as the sole discoverer of the new application of the vapor of sulphuric ether."

These witnesses all testify to a demijohn of ether, alleged by Mr. Morton, in his memoir to the French Academy, and by the witnesses, Leavitt and Spear, in their affidavits, to have been purchased of Messrs. Brewers, Stevens, and Cushing, by the said Leavitt, about the first of August, 1846; which ether is alleged by Mr. Morton in his memoir, and the witness Hayden in his certificate, to have been *sulphuric* ether. The witness Whitman alludes to the same demijohn, and Spear testifies to having inhaled a portion of the ether which it contained. All of which, as suspicious as it looks of concert between Mr. Morton and his witnesses, might possibly have some effect as evidence, were it not in proof that *no such demijohn of ether, as is alleged, was ever bought of Messrs. Brewers & Co.*

Boston, May 8th, 1848.

I, William A. Brewer, of Boston, County of Suffolk, and Commonwealth of Massachusetts, of the firm of Brewers, Stevens, & Cushing, of this city, on oath depose and say, that we have never kept or sold any other quality of sulphuric ether than the best manufactured in the American market.

The only quality of sulphuric ether kept or sold by us, in the summer of eighteen hundred and forty-six, and the month of September of the same year, as I have ascertained by careful inquiry and comparison, was inferior to no quality of sulphuric ether which was, at that time, to be found in the Boston market—it being the best officinal or sulphuric ether of commerce.

We have *never* kept or sold a quality of sulphuric ether such as is alleged by Mr. W. T. G. Morton to have been purchased of us in August, 1846, and which was analyzed for Mr. Morton, by Dr. Martin Gay, of this city, as appears in Mr Dana's pamphlet, No. 201 of Littell's Living Age page 536. WM. A. BREWER.

SUFFOLK, ss. BOSTON, May 19th, 1848.—Personally appeared, the aforesaid Wm. A. Brewer, and made oath that the foregoing affidavit, by him subscribed, is true. Before me,

S. W. ROBINSON,
Justice of the Peace.

[The Editors are in possession of still further testimony, verifying the statements contained in the foregoing affidavit, but the said affidavit is deemed amply sufficient to prove the point for which it is introduced.]

That Messrs. Brewers & Co.'s was the place where the alleged ether—supposing it to have been purchased—*was* purchased, cannot be denied; for Morton, Leavitt, Spear and Hayden all so state: nor can it be pretended that it was chloric, and not sulphuric ether which was purchased; for Hayden certifies that he kept the very demijohn constantly in his possession, until the twenty-second of June, eighteen hundred and forty-seven, and, on that day, he had a portion of its contents analyzed; and he produces the analysis of Dr. Martin Gay, and the certificate of Mr. Burnett, both of this city, that it was *sulphuric* ether. That sulphuric ether was taken to Dr. Gay, for analysis, there can be no doubt; and that certain ether taken to Mr. Burnett, to be pronounced sulphuric ether, was so pronounced, and truly, there can also be no doubt; but that it was the slops and drainings of Mr. Morton's sponges and inhalers, and of ether, too, bought after the 30th of September, both from the analysis of Dr. Gay and a sample of the same now in our possession for the benefit of the sceptical and curious, there is just as little room to doubt.

But there is still other evidence of there being no demijohn of sulphuric ether in Mr. Morton's office, either in the summer, or in September, of 1846.

Mr. Tenny says: "I was occasionally in and out of Mr. Morton's office, from about the 10th of September, 1846, until the first of October next ensuing; all the different rooms of the office were accessible to, and visited by me; there was no evidence of a demijohn of sulphuric, chloric, or any form of ether there during the said interval of time. I think there could not have been any sulphuric ether in the office without my having detected its odor, if it had been used."

Mr. Wilson was "quite frequently in and out of Mr. Morton's office during the month of September, and also the preceding summer months, and never heard Mr. Morton allude to sulphuric ether," and "never perceived its odor about his person, or otherwise." Mr. Hunt, who was an assistant in the office in the summer of 1846, uses still stronger language to the same effect.

So that if there was sulphuric ether in Mr. Morton's office, there is no probability of its having been used; which is no better for Mr. Morton's claims than if there had been none there. Again, it is not possible to discover any reason why Mr. Morton should have bought so large and unusual a quantity as a demijohn of sulphuric ether at this time. What could have been his *motive* or *inducement?* Mr. Morton pretends to but two experiments with sulphuric ether, previously to the purchase here alleged—one upon a water-spaniel, which we shall prove directly could never, in any probability, have been performed, and one upon himself, a few days previous. But it is also in proof, that Mr. Morton, as late as November, 1846, "had never, in any instance, inhaled the ether, excepting in the atmosphere about him," and that he never, during the fall of 1846, or the ensuing winter, gave any of his assistants reason to suspect that he had ever inhaled it, but every reason to suspect the contrary, from his most manifest fear of its effects. We can disprove, still more completely, this pretended experiment upon himself. Mr. Morton says that the ether which he inhaled was purchased by Mr. Hayden, at the apothecary store of Mr. Burnett, early in August. Mr. Hayden certifies that Mr. Morton, having inhaled it, informed him of the fact. But Mr. Hayden has since stated—as will appear by the affidavit of Mr. Blaisdell—"that the ether to which he swore as having been made use of by Mr. Morton, previously to Sept. the 30th, was chloric, and not sulphuric;" and Mr. Morton himself, at the time Mr. Hayden made this statement, substantially and emphatically admitted that such was the fact; and Mr. Morton has also given Dr. Gay distinctly to understand that there was no reference in the affidavits of his witnesses, to sulphuric ether. How absurd, therefore, that Mr. Morton should have commenced his experiments by the purchase of a whole demijohn of sulphuric ether!

We thus prove, that no demijohn of sulphuric ether was purchased of Messrs. Brewers & Co., about the first of August, as alleged;

Secondly; That it is wholly improbable that sulphuric ether, in any quantity, was purchased of any one; or, if purchased, that any use was made of it in Mr. Morton's office;

And, *thirdly;* That there was no ostensible reason why any should have been purchased.

Again; Thomas R. Spear, Jr., one of the four witnesses under consideration, states, in his affidavit, that, "about the first of August he inhaled some of the very ether brought by Leavitt from Messrs. Brewers & Co., in a demijohn, in Dr. Morton's office." There was not only no such ether to inhale, but Spear did not inhale sulphuric ether at all until the November following. Mr. Hunt details the circumstances of Spear's first inhalation of the ether. One evening Spear and Leavitt endeavored to induce, one the other, to inhale it. Spear at length consented, and handled a stranger in the office quite rudely while under its influence. Upon coming to himself, he apologized for his rudeness, asking the stranger to excuse him, "as this was *the first time* he had ever taken the ether." Hunt, thinking it barely possible that Spear might have intended this as only an apology, after the gentleman had left, asked Spear "if the ether had ever affected him in the same way before?" "No," he replied, "for I never took it before." Hunt speaks of other circumstances which fully satisfied him, at the time, that Spear told him the truth.

I, George H. Hayden, of Calais, in the State of Maine, on oath, depose and say, that I came to Boston to reside, in the fall of 1846, and resided there from the first of the month of November until the month of January next ensuing; that some time in the month of November of that year, Thomas R. Spear, Jr., stated to me that the evening before he had, *for the first time*, inhaled the vapor of sulphuric ether, in the office of Dr. Morton, and that it excited him very much; that while under its influence he seized a stranger who was in the office. Spear stated to me, distinctly, that he "had never inhaled the gas before." He said that it produced delightful sensations; and I feel quite sure, from the manner in which Spear spoke of the circumstance, that he stated to me the truth, and had never inhaled the vapor before that time.

GEORGE H. HAYDEN.

SUFFOLK, ss. April 24th, 1848.—Sworn to, before me, S. W. ROBINSON,
Justice of the Peace.

Wilson also testifies that Spear, about this time, "suddenly commenced inhaling the ether, and was afterwards in the habit of inhaling it continually;" which strongly confirms Hayden and Hunt.

But we should feel perfectly justified in disbelieving Spear's account of his inhaling the ether in August, from the circumstance alone that there was no such ether to inhale, as that which he positively asserts that he did inhale.

William P. Leavitt, another of the four witnesses, describes the inhalation, by Spear, of Messrs. Brewers & Co.'s ether, bought by himself, quite minutely and vividly. He tells us, moreover, that Hayden was an eye-witness to the same experiment. What does Mr. Hayden say about it? It was the first experiment he had ever witnessed; the first which Mr. Morton says he performed on a human being. According to Mr. Morton and Leavitt, it was attended with very striking and remarkable effects, which they remember most distinctly. Hayden simply says that Mr. Morton "*tried to induce*" Spear "to take it." Will Mr. Hayden say that it was at a different time that Mr. Morton "*tried to induce*" Spear "to take it?" Grant it. Is Leavitt not to be believed because he says that Mr. Hayden was an eye-witness to this experiment; or, is Hayden not to be believed because, having been an eye-witness, he has told us nothing about it; or was it concluded, at the taking of the testimony, that Morton, Leavitt and Spear would be witnesses enough to this experiment?

We dismiss Leavitt with three words more. First,

he went to Messrs. Brewers & Co.—supposing him to *have* gone—with a lie in his mouth as to whom he wanted the ether for; second, he did not go there, as he alleges; third, he swears to an experiment with the very ether that he says he bought, which we have proved never to have been performed.

But Spear's is not the only experiment pretended. Hayden tells us that Morton informed him, in August of 1846, that he had just inhaled the ether, and on the 30th of September following that he had also inhaled it on that day. This latter is the experiment of which Mr. Morton gives such a glowing and detailed account in his memoir.

But Hunt gives us the circumstances in full under which Mr. Morton stated expressly to him, in the following November, that "he had never, in any instance, inhaled the ether excepting only in the atmosphere about him." It is, moreover, very remarkable that Mr. Morton never, during the whole fall of 1846, alluded to either of the two experiments upon himself, or gave Wilson or Hemmenway, his two principal operators, any reason to suspect that he had performed them, and should have manifested such a constant fear of its effects upon himself, as is testified to by them. Can any further evidence be required that Mr. Morton stated falsely, to Mr. Hayden, that he had inhaled the ether, whether it be once or twice?

Mr. Morton also described to Mr. Hayden an experiment performed by him upon a dog—the water-spaniel of Mr. Morton's memoir—"in the presence of two witnesses." The animal "at first wilted completely away, then roused, yelled loudly, and leaped *ten feet* into a pond." Please to take notice that the effects produced on this dog, as described, "exactly corresponded" to the effects produced upon human subjects in Mr. Morton's office even as late as March the 25th, 1847, as "witnessed and sworn to" by Mr. Hayden himself.

We look in vain for at least one of the two witnesses to this, the only experiment, in addition to the one upon Spear and the two upon himself, pretended by Mr. Morton in his testimony to have taken place, previously to the 30th of September. We have already proved that the three last named were never performed. This, therefore, was his only experiment. Must he not have known it, and does he think it unimportant to attempt to prove it by testimony of any kind? Are the two witnesses "spirits of the vasty deep" that "would not come," or have they forgotten the experiment, or has Mr. Morton forgotten who they were? Would that Æsop might live again to give speech to the dog! We would gladly abide by his testimony, either as to his having inhaled the ether at all, or as to his having leaped the ten feet.

We have said that "Dr. Jackson was uniformly spoken of, in the fall of 1846, and the greater part of the ensuing winter, by *all* connected with Mr. Morton's office, as the sole and exclusive author of the new discovery." In proof whereof, see Hemmenway. "The 'common report' of the office during the first months of the application of the new agent, known as it must have been to Mr. Morton, and uncontradicted, so far as I know, by him or by any one, ascribed the authorship of the new discovery exclusively to Dr. Jackson." Wilson and Hunt fully sustain this language of Hemmenway's. Wilson speaks of this ascription of the discovery exclusively to Dr Jackson, as "an every day remark."

Now these four witnesses yielded an entire assent, during the said fall and winter, to this "common report," which assent alone, by well-settled principles of evidence, would be conclusive as against any subsequent statements indicating a changed or opposite belief, no new facts having transpired, no reason being assigned, and it being impossible to discover any, why they should have changed their minds.

But we do not rely upon their silent assent alone. Spear told Hunt, in a walk to East Cambridge, that "Mr. Morton first obtained 'the gas' from Dr. Jackson at his laboratory, on the 30th of September; that he had tried it, and it worked first-rate; and that he had since then continued to use it under the directions of Dr. Jackson." This was late in October, or early in November, 1846. Francis Whitman assured Hunt that he had heard the truth in Spear's account. Hunt says he cannot be deceived as to the belief of Spear, at the time of the above statement that Dr. Jackson was the exclusive author of the new discovery.

If, therefore, the silent assent of these witnesses to the one voice and one mind of the office is not conclusive against their subsequent testimony, certainly their open, explicit, and voluntary declarations must so be taken.

At any rate, it is a very remakable fact that these witnesses, immediately upon the taking of their testimony, did "*all at once, and for the first time*," begin to harp upon the before-named experiments pretended to have been performed by Mr. Morton previously to the 30th of September; the experiment upon the water-spaniel—the two experiments of Mr. Morton upon himself—the demijohn bought of Brewers, Stevens & Cushing—and the inhaling of that very same ether by Spear.

We dismiss these witnesses with one word more touching Mr. Hayden. Hayden stated to Mr. Blaisdell, in June or July, 1847, that when he swore in his affidavit that Mr. Morton had used ether in the summer and September of 1846, "he knew it was chloric ether, but he thought he would write it as he did, and let people draw what inferences they pleased." Does not this show a manifest determination in Mr. Hayden to deceive the public by his testimony, and does it not cast a still more fatal suspicion upon the mysterious circumstances under which it first saw the light?

R. H. Dana, Jr., Esq., and Dr. Francis Dana, Jr., infer from Mr. Morton's having mentioned to them, in the summer of 1846, that "he was engaged upon something which, if successful, would revolutionize the practice of dentistry," that Mr.

Morton alluded to the ether discovery. Messrs. Wilson and Hunt will inform the Messrs. Dana what it was to which Mr. Morton was accustomed to apply the very words addressed to them. Says Wilson, "During the summer of 1846 I often heard Morton speak of a new discovery which he was about to publish to the world, to which he was giving his whole energies, and which, in his own words, 'would revolutionize the whole practice of dentistry, and secure to him a fortune;' but he never hesitated to tell me that it consisted of a new composition for filling teeth, and a new mode of making teeth and setting them to plate." Wilson adds that "this was Morton's great hobby in the summer of 1846, and in September of the same year." Hunt tells us that Morton spoke to him of these improvements as being a discovery, which, in Morton's own language, "would enable him to uptip and monopolize the whole practice of dentistry in the city, and be worth one or two hundred dollars a day to him."

It thus appears that Mr. Morton's time and energies were almost wholly consumed, in the summer and early autumn of 1846, with this last-named discovery. It is probably this discovery, and Mr. Morton's use of chloric ether for the purpose of destroying the sensibility of teeth, as appears from Wilson, which constitute the groundwork of the disjointed and ragged recollections to which Mr. Morton's witnesses swore, so far as there is any groundwork to their recollections at all.

CHAPTER II.

The letters of Messrs. Metcalf and Wightman are relied upon as evidence that Mr. Morton was, on the thirtieth day of September, A. D. 1846, more or less acquainted with the *idea* and *use* of the new application of sulphuric ether. Less importance will be attached to letters such as these, by cautious readers, than to statements given under oath. There is nothing like an oath to fasten honest witnesses, which both of these gentlemen unquestionably are, to the letter of their recollections. The witness himself attaches greater importance to statements thus given, and is more careful and definite.

Testimony of so extremely indefinite a character as that contained in the letter of Mr. Wightman, would be rejected in a court of law, as not being entitled to weight as evidence, unless there should be accompanying testimony to give it definiteness, which in the present case is most sadly wanting.

Mr. Wightman says that his acquaintance with Mr. Morton commenced in the summer of 1846. We are enabled to approximate, in some measure, to the date, with the assistance of Mr. Chamberlain. Mr. Chamberlain testifies, that "*late in the summer, or early in the autumn*," Mr. Morton called on him to obtain gas bags for a blow-pipe apparatus, an instrument which Mr. Morton probably needed to carry on the improvements which we have shown him to have been engaged upon in mechanical dentistry. Not being satisfied with Mr. Chamberlain's prices, Mr. Morton asked if such apparatus was made elsewhere in the city. Mr. Chamberlain referred him to Mr. Wightman, when Mr. Morton asked who Mr. Wightman was, and where was his place of business? Mr. Wightman's first acquaintance with Mr. Morton must, therefore, have been *after* this interview. Mr. Wightman says that his second interview with Mr. Morton took place "*within a few weeks*, he should think," after the first, and according to the testimony of Mr. Morton, it could not have been until after the middle of September, when he returned to Boston from the country, where he had gone early in the month of August.

Approaching thus nearly by the testimony of the other party to the month of October, we can attach very little value to a circumstance by which Mr. Wightman says that he enables himself to remember that it occurred before the 28th of September, especially as that circumstance is withheld by him. Again; for what purpose did Mr. Morton seek his second interview with Mr. Wightman? Mr. Wightman tells us that it was to ascertain the effect of sulphuric ether upon India rubber bags. Is it not, therefore, in the highest degree probable, that the interview in question took place at the time when Mr. Morton, *after* the 30th of September, first set about inventing some apparatus for the inhalation of sulphuric ether? Is it not likely that Mr. Morton, when he left Mr. Chamberlain's, went directly to Mr. Wightman, and asked him, as he had Mr. Chamberlain, concerning the different gases and bags which he might use in connection with the blow-pipe apparatus, which he was upon at that time; and may not Mr. Wightman have confounded this interview with a conversation or conversations respecting the effect of sulphuric ether upon India rubber bags, when, after the 30th of September, he actually was constructing an inhaler with bags of India rubber cloth? Or, if Mr. Morton did not go to Mr. Wightman from Mr. Chamberlain, has not Mr. Wightman antedated the interview in question a little?—a little, we say, for at the farthest, we come *within a very few days* of one another. A person so extremely indefinite in his dates as Mr. Wightman, is more easily deceived in this regard than he is apt to suppose. If, in point of fact, any conversation took place in the cars, on the 28th of September, between Mr. Wightman and Mr. Morton, in respect to ether as an agent for producing insensibility, it probably had reference to chloric ether, but only as a narcotic for destroying the sensibility of teeth, which, it appears by Wilson, was at that time used by Mr. Morton for this purpose.

That Mr. Wightman is confused and mistaken in his recollection of the date of the interview under discussion, and that Mr. Morton did not consult with him, with regard to the effect of ether upon India rubber, prior to the 30th of September, is also proved by other circumstances. If Mr. Morton was contriving an inhaler with India rubber bags previously to September 28th, why has not Mr.

Hayden recollected the fact, and why have not Whitman and Leavitt and Spear testified to it? Surely it was very material to confirm the statement of Mr. Wightman, and to establish the pretensions of Mr. Morton, and yet these witnesses are all silent upon the matter. Perhaps they will recollect it now!

Notice also the absurdity of Mr. Morton's statement upon this subject. After giving his account of the conversation with Mr. Wightman, he says: "I took from Mr. Wightman's a glass tunnel, *purchased an India rubber bag on my way*, and returned to my office." He went there to procure the same article, and he asked Mr. Wightman to show him some of his gas bags. Why, therefore, did he not make his purchase of Mr. Wightman? Mr. Mor- purchased a bag on his way to his office! Where did he purchase it? At whose store? Why has not Mr. Morton fixed the date of his visit to Mr. Wightman, and thereby confirmed the indistinct statement of that gentleman by the testimony of the person of whom he bought the gas bag?

Again, if Mr. Morton had purchased a gas bag prior to the 28th of September, why should he have been in want of another on the 30th of the month, when he went to Dr. Jackson's laboratory to borrow one? Had the former bag, and the one also which Spear swears that he saw in Mr. Morton's office in August, been dissolved by the agency of ether, or was he contriving some very complicated apparatus for its inhalation?

Again, Mr. Morton states, that, upon his return to his office from Mr. Wightman's, he "sent Leavitt to Dr. Gay, a chemist, to ask the simple question, whether ether would dissolve India rubber? He (Leavitt) returned, saying that Dr. Gay was not in." Mr. Leavitt has, however, testified, that he went to call upon Dr. Gay, *but could not find his residence*. He has not, it is true, fixed the day when he went to call upon Dr. Gay for this purpose, but there is no evidence that he was sent twice, and the language which he has put into Mr. Morton's mouth proves that the same transaction is referred to by both parties. Does not this contradiction in the testimony of Mr. Morton and Mr. Leavitt, add greatly to the improbability of the statement of the former.

We submit, therefore, that the account given by Mr. Morton of his alleged visit to the office of Mr. Wightman in September is in the highest degree absurd and improbable, and that the testimony of Mr. Wightman must relate to an interview in the month of October, when, as we do not question, Mr. Morton did call upon him to procure some apparatus for the inhalation of ether.

As to Mr. Metcalf's letter. Mr. Metcalf has stated since his letter was written, that the vial of ether which Mr. Morton held in his hand in Mr. Burnett's store, early in the summer of 1846, was either a one or two ounce vial. We understand Mr. Metcalf will not state on oath that it contained sulphuric ether. He only believes it was so labelled. Mr. Metcalf will not probably swear that Mr. Morton did really purchase the said vial of ether. Mr. Morton held it in his hand, and he (Mr. Metcalf) therefore supposed that he was purchasing it. Mr. Metcalf will not probably swear that Mr. Morton made, if any, other than the most general inquiries respecting sulphuric ether; or that what was said in regard to ether as a substitute for nitrous oxide, was not wholly volunteered by himself, which is much more likely to have been the case, from the fact of Mr. Metcalf's having had some experience with it as such a substitute. Upon the hypothesis of sulphuric ether, did not Mr. Morton wish to ascertain whether it might not be a better article for destroying the sensibility of teeth, than chloric ether, which he was using? It is also to be noticed that Mr. Morton tells us what he did with the sulphuric ether which he bought at other times. Will he tell us what he did with this? Mr. Metcalf says that this was merely an accidental conversation with Mr. Morton, which "*quickly passed from his mind*," It was brought back to him some time and some where while in Europe, when he first heard of the discovery of the new use of sulphuric ether. Is not this last circumstance all which has led Mr. Metcalf to connect a forgotten conversation with sulphuric ether? Connecting with Mr. Metcalf's letter the other testimony in the case, the hypothesis that Mr. Morton's inquiries were concerning chloric ether, is by far the most reasonable.

As to Mr. Morton's memoir. His story about the water spaniel we have submitted to be untrue. Also the purchase of sulphuric ether by Hayden at Burnett's, early in August. The matter of the demijohn is a *third* falsehood. Spear's inhalation of a portion of its contents, a *fourth*. The analysis of another portion of the contents of the same vessel, a *fifth*. The pretension that if its contents had been a more respectable quality of sulphuric ether, he (Mr. Morton) should have made the discovery in August instead of September, is a *sixth*. His two experiments upon himself, a *seventh* and *eighth*. His account of his interview with Dr. Jackson on the 30th of September, when he thought it necessary to carry his deception to such an extent as to inquire of Dr. Jackson whether sulphuric ether was liquid or gaseous, lest Dr. Jackson "should," in his own words, "snatch the prize from his grasp," is a *ninth*. His statement that he inhaled the ether on the 30th of September, with *a tube and flask*, obtained from Dr. Jackson's laboratory on that day, and which we prove by the sequels to the original affidavits of Barnes and McIntire, that he did not obtain until two or three days after the 30th, is a *tenth*. His account, as appears from Barnes and McIntire, at the laboratory of Dr. Jackson, on Oct. the 1st, that he only inhaled it on the 30th with a *handkerchief*, is the *eleventh*. The account, also, that he inhaled it from a *sponge* on the same occasion, as given by Mr. Edward Warren, and endorsed by Mr. Morton, is the *twelfth*. (Three different accounts, it will be perceived, of an experiment which is proved never to have happened.) His account of an oper-

ation upon the wife and aunt of Dr. Jackson, as will appear from Mrs. Bridge and Miss Bartlet, is the *thirteenth*. His false assertion that his first successful experiment got into the papers without his knowledge, as will appear by the next following affidavit, is the *fourteenth*. But we forbear, not because the reader has been told all the falsehoods in Mr. Morton's memoir, but because we have sufficiently discredited him. We beg the reader's pardon for so far departing from the dignity which belongs to so grave a discussion.

I, A. G. Tenney, of Boston, County of Suffolk, and Commonwealth of Massachusetts, on oath depose and say, that I was an eye-witness to the experiment performed with the vapor of sulphuric ether by Mr. W. T. G. Morton, of this city, at his office, on the evening of the 30th of September, A. D. 1846. I allude to the experiment performed on Mr. Eben H. Frost.

On the following morning Mr. Morton called at the office of the Daily Evening Journal, with which I was then connected, and requested me to insert a notice of the said experiment in the paper of that day. I stated to him that the regulations of the office would require that he should first become an advertiser. In the course of the morning I received word that Mr. Morton had directed the insertion of his advertisement, and thereupon wrote a notice of the experiment aforesaid, which came out in the Journal of the same evening.

The same morning there was considerable conversation between us in relation to the experiment of the preceding evening, in the course of which Mr. Morton stated that he had received the assurances of Dr. Jackson, that the application of the preparation which he had used was *perfectly safe and harmless*. Mr. Morton, a few days afterwards, repeated the same statement to me.

I was occasionally in and out of Mr. Morton's office, from about the 10th of September, A. D. 1846, until the first of October next ensuing. All the different rooms of the office were accessible to and visited by me. There was no evidence of a demijohn of sulphuric, chloric, or any form of ether in the office, during the said interval of time. I think there could not have been any sulphuric ether there, without my having detected its odor, if it had been used.

I never saw Mr. Morton administer the ether, excepting on the evening of the 30th of September aforesaid, although connected with his office from the 12th of October, 1846, until after the commencement of the year 1847.

From the statements and expressions of assistants in the office, I was led to conclude that they had no confidence in Mr. Morton's knowledge of the nature and proper application of the ether. Mr. Morton appeared to have little or no connection with the responsibility of their experiments.

A. G. Tenney.

We come now to the 30th of September. We have followed Mr. Morton through with all his testimony up to this date. We have endeavored faithfully and fairly to discuss every material item of it. We now stand with Mr. Morton, in the laboratory of Dr. Jackson. We ask Mr. Dana, we ask the chairman of the committee of the Trustees of the Massachusetts General Hospital, who attempts to justify, with such zealous advocacy, the pretensions of Mr. Morton, what knowledge Mr. Morton had, on that day, which he *could* have concealed from Dr. Jackson? What evidence is there of any? What evidence is there that Mr. Morton had ever made the new application of sulphuric ether a subject of previous observation, inquiry, study, or experiment? Mr. Morton tells us, in his memoir, that he kept back, at the interview with Dr. Jackson, the knowledge at which he had arrived, as the result of his studies and experiments, lest Dr. Jackson should suspect his discovery, and steal it from him. Observe that we have to depend upon Mr. Morton's word alone, the value of which we believe we have, in the most effectual way possible, already submitted to the public, for the only account given us of this piece of deception. Mr. Morton's account has been substituted by Mr. Bowditch and Mr. Dana, in the place of the simple and straightforward narratives given by Barnes and McIntire, in their affidavits, of the circumstances in full, of this interview. It is now in our power to add yet a third narrative of this interview, agreeing with those of Barnes and McIntire, almost letter for letter, and "received by Mr. Wilson," without solicitation, "from Mr. Morton's own lips, in November, 1846." Says Wilson, Mr. Morton related to me the following facts. "On one occasion a lady called at the office to procure a set of artificial teeth. It became necessary to extract several stumps. The lady was timid and sensitive, and shrank from the operation. In order to prevail upon her to submit to the instrument, I determined in some way to act upon her imagination, and for this purpose went to the laboratory of Dr. Jackson, to procure an India rubber bag, which I proposed to inflate with atmospheric air, and then persuade the patient to inhale from it, stating to her, at the same time, that she would experience no pain from the operation. Dr. Jackson scouted the idea of practising any such deception, directing me to administer the vapor of sulphuric ether, with a handkerchief or folded cloth, which would render the patient insensible, when I could extract her teeth without her knowing it. I instantly seized upon the new idea, and immediately commenced my first experiments with the ether." These are admissions made voluntarily by Mr. Morton himself against his own interests—the highest evidence known to the law.

These three narratives taken together, place beyond a doubt Mr. Morton's total ignorance, on the 30th of Sept., of the properties and effects of sulphuric ether; Dr. Jackson's knowledge of its perfect safety and applicability as an anæsthetic agent, his communication of the discovery to Mr. Morton, and the committing to him, as his agent,—with the requisite and specific instructions, and an express and actual assumption of the whole responsibility—of the first surgical experiment and testing of the new agent. The perfect newness of Mr. Morton's delight upon receiving this trust, was equalled only by his ignorance of the agent intrusted to him.

CHAPTER III.

Dr. Jackson's mind is to be seen no less clearly in the demonstration than in the authorship of the new discovery. Mr. Morton, because his hand extracted the first tooth without pain to his patient, is no more to be considered the discoverer of the new use of ether, than the sailor who first shouted "Land!" from mast-head, and not Columbus, is to be considered the discoverer of the New World. Taking the authorship of the idea—or the demonstration of it—it is Dr. Jackson's mind only which we see. It was his mind only which Mr. Morton himself saw, during the early application of the new agent. It was his mind alone which was recognized by the assistants in his office, and made by them their exclusive guide in the demonstration of the discovery.

We care not whether Mr. Morton, by the word "discovery," means "authorship," or "demonstration," one or both. During the early application of the ether in his office, he unhesitatingly proclaimed Dr. Jackson its "sole and exclusive discoverer." And Mr. Morton said this, we have not a doubt, because he saw Dr. Jackson's mind in all, and over all, authorship and demonstration alike. It was the tribute which his own good sense, and the good sense of the ether operators of his office, and the force of an urgent practical truth, compelled them to pay to the mind which guided and directed the whole operations of their hands. On these points, let us listen first to Mr. Morton, and then to his "ether corps."

Says Wilson, "Mr. Morton, in November, 1846, stated to me that 'he was indebted to Dr. Jackson for the idea of the new application of ether, and had received instructions from him how to apply it.'"

Again: "Respecting the authorship of the discovery, I do not feel the least embarrassment or doubt; for my opinion has been wholly founded upon the narrative and declarations of Mr. Morton, in which uniformly, and without reserve, he ascribed its authorship to Dr. Jackson, never speaking of himself, otherwise than as the first and fortunate person to whom Dr. Jackson had communicated it."

Robinson. "Mr. Morton unreservedly admitted that there was some one behind himself connected with the discovery, as its originator, and that Dr. Jackson was that person."

Blaisdell. "Mr. Morton stated that the idea of employing sulphuric ether, for the purpose before mentioned, was first suggested to him by Dr. Jackson. I asked him, therefore, if it was Dr. Jackson who made the discovery? Mr. Morton at once answered that he did, and that Dr. Jackson had communicated it to him, with instructions as to the proper mode of applying the ether, and that having acted in accordance with his advice, his (Morton's) practice had been successful, the result in every way answering to Dr. Jackson's prediction. I met Mr. Morton frequently afterwards, and conversed with him upon the subject of ether. He uniformly made the same declarations, awarding the discovery to Dr. Jackson."

Payne. "During this interview," (at Mr. Morton's office, Jan. 2, 1847,) "Dr. Morton stated, repeatedly and emphatically, that Dr. Charles T. Jackson was the sole discoverer of the new agent for producing insensibility to pain, and that Dr. Jackson had communicated it to him. Furthermore, that all the knowledge he possessed, of its properties and its application, had come to him from Dr. Jackson, and that he had never had any idea of applying sulphuric ether, or that it could be applied, for the aforesaid purpose, until Dr. Jackson had suggested it to him, and given him full directions for applying it."

Dr. Payne is recommended to our confidence by Hon. A. R. Hadley, Speaker of the House of Assembly of the State of New York, and by other highly respectable citizens of that state, as a gentleman of truth and veracity, "and as standing among the first in his profession."

Did Mr. Morton ascribe the discovery to Dr. Jackson, in the strong language which has been given, in order to inspire confidence in it, in the mind of Dr. Payne, and thereby induce him to purchase a right under his patent?

But Dr. Payne, when he came to this city, had already used the ether for a considerable time, had investigated its properties, and fully tested its applicability for the purposes of its newly-discovered use. An "injunction" had been served upon him in Troy. He came to Boston, not for information, but protection. His business was with the proprietor of the patent, not with the author of the discovery. Mr. Morton "offers to call with Dr. Payne upon the author of the discovery, who will give him any information he may desire." But no; Dr. Payne cannot be better convinced than he is already, or better assured, even by one of the best chemists in the country, of the perfect practicability and safety of the new agent.

What motive had Mr. Morton to tell a gentleman, upon whom he must have known Dr. Jackson's assurances could have no weight or influence, that the discovery belonged exclusively to Dr. Jackson? *It is not human nature* thus voluntarily to admit away a discovery, of which the magnitude and greatness were so fully foreseen. Mr. Morton's declarations to Dr. Payne are inexplicable upon any other hypothesis than that he believed what he stated.

There are many others who came to Mr. Morton under precisely the circumstances which brought Dr. Payne to this city, and to whom he made the very same statements.

Now as to the ether corps of the office:—

I, L. E. Hemmenway, of Boston, County of Suffolk, and Commonwealth of Massachusetts, on oath depose and say, that I was an assistant dentist in the office of Mr. W. T. G. Morton, of this city, from about the 15th of October, A. D. 1846, until after the commencement of the year 1847.

While in Mr. Morton's office I formed the belief that Dr. Charles T. Jackson, of this city, was the first and exclusive discoverer of etherization. This belief I was in the habit at the time of frequently

declaring to others. I founded it upon the fact that in all questions, which arose in the office, touching the nature and properties of sulphuric ether, and the judiciousness and safety of its application, (and they were of almost daily occurrence during the early period of its application,) the decision and instructions of Dr. Jackson were required by the operators, and obtained, either by Mr. Morton himself, or his brother-in-law, Mr. Francis Whitman. I founded it also upon the fact, that during the early application of the ether, Mr. Morton neither appeared nor pretended to have any knowledge of its nature and effects, excepting as derived from Dr. Jackson; upon the fact, that Dr. Morton never, to my knowledge, inhaled its vapor, or spoke of having inhaled it, or, excepting in one instance, applied it to a patient in the office himself, during its early application; upon the fact of his constant repetition of the assurances of Dr. Jackson, that the vapor of pure sulphuric ether, as an agent for producing insensibility to pain, during the performance of our dental, and of all surgical operations, was perfectly safe, if judiciously administered; upon the fact, that he cast the whole responsibility of the consequences which should result from our experiments, upon Dr. Jackson and ourselves; upon the fact, that the occasional directions which he hazarded upon his own responsibility, were at variance with those brought to us, as aforesaid, from Dr. Jackson, that they were regarded by us as injudicious, and that, as a general thing, we did not dare to follow them; upon the fact, also, that the "common report" of the office, during the first months of the application of the new agent, known, as it must have been, to Morton, but never, so far as I know, contradicted by him or by any one, ascribed the authorship of the new discovery exclusively to Dr. Jackson.

So intimately was Dr. Jackson connected, by his directions, instructions, and authority, coming to us as aforesaid, with all of our experiments, and so entirely did we distrust and set aside Mr. Morton's own unadvised directions, that if etherization had resulted in a failure, I should have considered it the failure of Dr. Jackson, and not of Mr. Morton.

I have heard Mr. Morton state, that Mr. R. H. Eddy, of this city, would not, as he had stated to him, take the sum of sixty thousand dollars, for his (Mr. Eddy's) interest in the patent taken out upon the new discovery.

L. E. Hemmenway.

Suffolk ss. Boston, May 4th, 1848. Sworn to by the said Hemmenway this day, before me,

S. W. Robinson,
Justice of the Peace.

Hunt tells us, "Dr. Jackson's directions and instructions were made the rule of all our experiments. The directions which Mr. Morton sometimes gave us we did not think it safe to follow, they being generally rash and injudicious."

Says Wilson, "In my administration of the ether I was guided by, and relied solely upon, the advice and assurances of Dr. Jackson, received through Morton. *We did not dare to follow Morton's own directions.* If we had followed even the few which he volunteered upon his own responsibility, and not confined ourselves strictly within the directions and authority of Dr. Jackson, received as aforesaid, and the teachings of our own observation and experience, I have no doubt that dangerous, and even fatal results would have ensued, and etherization at that time have resulted in a failure."

Tenney tells us, that "From the statements and expressions of assistants in the office, I was led to conclude that they had no confidence in Mr. Morton's knowledge of the nature or proper application of the ether. Mr. Morton appeared to have little or no connection with the responsibility of their experiments."

One word as to the gentlemen whose testimony we have produced. Among them are included all who were ether operators in Mr. Morton's office in the fall of 1846, excepting Mr. Hayden, the same who belongs to Mr. Morton's coterie of witnesses, who administered it but occasionally, when there was more than ordinary pressure of business. The gentlemen produced by us have hitherto observed a strict neutrality and silence. Animated by the "*esprit du corps*," they were unwilling to say anything which might affect unfavorably him whom they had served; but they have at length felt it to be their duty to the public to expose, by the statement of facts, which, from the circumstances of their connection with Mr. Morton, lay peculiarly within their knowledge, the gross and high-handed imposture which they have seen him attempt to practise upon the world.

It has been charged upon Mr. Barnes, that his testimony wants in accuracy, for the reason that six or eight months elapsed after the conversation which he relates took place, before it was put to writing by him. If this length of time had elapsed beforehand, it would be a proof of nothing but the astonishing accuracy and fidelity of his memory, for his narrative is almost literally verified by Mr. Morton's narrative to Wilson, in Nov., 1846, already given. But no such length of time did elapse; Mr. Barnes' testimony was all in writing, *within six weeks* after the conversation occurred, of which we have abundant proof.

To conclude the argument of the preceding chapters; we have in our possession a copy of a "Statement," by Dr. Augustus A. Gould, of this city, drawn up in the earlier period of the controversy, in fulfilment of an understanding with Mr. Morton, and expressly purporting to state the whole ground of Mr. Morton's claims to the discovery of etherization. No mention whatever is made in this "Statement" of any studies or experiments of Mr. Morton previously to the 30th of September, 1846.

Again; why did not Mr. Morton, when R. H. Eddy, Esq., his counsel in taking out a patent on the new discovery, stated to him that "Dr. Jackson should be made a party to the instrument, inasmuch as he had first suggested the new application of the ether,"—why, we ask, did Mr. Morton not tell Mr. Eddy that the idea was, in some measure, at least, the result of his previous studies and experiments, and why did he assent fully that the suggestion came entirely from the source to which Mr. Eddy ascribed it, and then proceed directly to confirm that assent by conduct so naturally the result of it?

CHAPTER IV.

The idea of the applicability of sulphuric ether as an agent for producing insensibility to pain during surgical operations, was perfectly well known to the mind of Dr. Jackson before the 30th of September, A. D. 1846; and on that day Dr. Jackson, through Mr. Morton, introduced, for the first time, the new agent into the surgical practice of the medical and dental professions. In substantiation of which proposition we quote Dr. Gay:

Dr. Jackson was for many years in the habit, when at work in his laboratory, of inhaling occasionally to a greater or less extent the vapor of sulphuric ether, to relieve the irritation produced by the various noxious fumes to which he was at times exposed. He knew that a long continued inhalation of it was supposed by physiologists to be dangerous; and about six years ago—with a view of observing fully the effects of this inhalation—he breathed the vapor for a longer time than he previously had done. In this experiment, a peculiar sleep or unconsciousness was produced; he observed that it was of short duration, attended with no unpleasant sensations, and no symptoms which seemed to him to be dangerous. In the winter of 1841—42, he inhaled sulphuric ether in order to obtain relief from the very unpleasant sensations, caused by an accidental inhalation of chlorine gas. He thought that in this case some relief might possibly arise from the union of the hydrogen of the ether with the chlorine, forming hydrochloric acid; which acid would be less irritating than the uncombined chlorine; and he inhaled ammonia, to neutralize the acid, and form muriate of ammonia, less irritating still. He at first breathed the ether without producing unconsciousness, but derived from it some relief. Afterwards, still suffering from the chlorine, he continued the experiment to such an extent as to produce complete general insensibility. Full relief from the suffering was experienced *before* he became unconscious, and it continued for a short time *after* the insensibility had passed away. When the system had become wholly free from the influence of the ether, the painful sensations returned, although with somewhat diminished violence.

Dr. Jackson also prescribed the ether to one of his students, Dr. William F. Channing, who was suffering in the same manner from chlorine gas. The effect of the chlorine was to produce a spasmodic sensation, and, to quote Dr. Channing's own words, "distress of respiration, of such a character, as to make me apprehend an immediately fatal result." He also found entire, but temporary, relief from the ether. It was evident, therefore, as this perfect relief from suffering, at first experienced, so soon passed away, that there must be some other explanation of these effects, besides that founded on the possible neutralization of the chlorine by the hydrogen of the ether, and of the acid by the ammonia; because, if these combinations of chlorine and hydrogen, and of the acid and ammonia, had once been formed, they would have been permanent; and the relief, having been a result of these combinations, would have been permanent also. This was not the case, for the peculiarly unpleasant sensations from the chlorine returned, although with less violence.

The question now arises, how far is Dr. Jackson entitled to the credit of having discovered the precise character of the unconsciousness induced by inhaling the vapor of sulphuric ether, and especially the important fact of the safety of the inhalation? Before his observations, a state of complete insensibility from this cause, was considered, by the best authorities, as one of greater or less danger; and it had been known to produce fatal results. Young persons had breathed this vapor to the extent of producing unconsciousness, and in some cases without injury. In Philadelphia it was breathed by some lads, who poured the ether into bladders, which they dipped into hot water, in order to vaporize it; they then inhaled the vapor thus formed; Dr. Mitchell states that, in some instances, it proved fatal.* These facts give some idea of the state of knowledge upon the subject, before Dr. Jackson made sulphuric ether an object of investigation. Acquainted with the opinions of others, and also with the fact, that this vapor had in various instances been breathed without serious or unpleasant consequences, and having performed bold experiments upon himself, he, at last, in opposition to the opinion of other physiologists, arrived at the conclusion, that the inhalation of a proper mixture of sulphuric ether and atmospheric air is perfectly safe; and that the state of unconsciousness thereby induced has all the various other characters which have been described, and which later experiments have fully established. That he had perfect and unwavering confidence in the correctness of his opinion, will be proved in the sequel. If we contrast the state of general information and belief concerning the effects of sulphuric ether previous to Dr. Jackson's investigations, with that which now exists, and if we recollect that this change is due to him, it would seem but just to admit his claim to have discovered, in the insensibility induced by the sulphuric ether, qualities of inestimable value.

Dr. Jackson conceived the idea, that the pain attending surgical operations might be prevented by inhaling the vapor of sulphuric ether to the extent of producing general unconsciousness. His conviction of the safety, with proper precautions, of inhaling it to this extent, was the first step towards the application of the ether to that purpose. The character of this unconsciousness, in other respects, was all that could be desired. Its principal features, as discovered by him, are, the short time required for its induction, its completeness, its brief duration, the rapid recovery of the patient from its effects, and a certain paralyzing influence upon the nerves of sensation. The difference is remarkable between the effects of this vapor, and those of all other substances, whose action on the system has been investigated. The ether is the only one known to produce the effects just described, and, with proper precautions, is not liable to produce any others, which would render its administration objectionable. It still remained to be ascertained, whether this unconsciousness was so perfect, that, during its continuance, no pain would be produced by wounding instruments. Dr. Jackson confidently believed that it was. Having, as the final result of his experiments and reflection, come to the conclusion, that sulphuric ether combines all the qualities requisite in a substance to be used for the prevention of pain in surgical operations, he selected it for this great purpose.

Dr. Jackson was now prepared to advise without reserve the performance of an operation upon a patient under the influence of the ether vapor. He communicated to several persons, and among others

* Vide Beck's Medical Jurisprudence, vol. ii., p. 668.

to Dr. Bemis, an eminent dentist, in 1842, as is proved by his statement subjoined in the Appendix, his observations and conclusions respecting the prevention of pain in surgical operations.

[That the agent of which Dr. Jackson spoke to Dr. Bemis, was, *in all probability*, pure and washed sulphuric ether, see letter of Mr. Blake, a distinguished chemist, who was formerly superintendent of the Norfolk Laboratory.]

In February, 1846, finding that Mr. Joseph Peabody, a student in his laboratory, wished to be mesmerized, that he might have two teeth extracted without pain, he dissuaded him from the attempt. He informed him that insensibility would be produced by the inhalation of sulphuric ether vapor; he advised him to breathe it, and to submit to the operation, while in the sleep induced thereby. He gave him directions for the purification of the ether; and instructions similar to those which were subsequently given to Mr. Morton, and which were found sufficient for a perfectly successful performance of the operation. All this was voluntarily done by Dr. Jackson, no advice or opinion having been solicited of him by Mr. Peabody. They conversed several times concerning this application of the ether; and Mr. Peabody intended to have the operation performed upon himself, after returning to his home in Salem; and he actually commenced the distillation of the ether for this purpose. He, at last, gave up the experiment, because his father, a scientific man, feared irritation of the lungs might ensue; because the best authorities on the subject were arrayed against the opinion of Dr. Jackson, and because he was unwilling to incur any risk for so slight an operation. Dr. Jackson declared to Mr. Peabody, that, notwithstanding the general opinion of physiologists, he felt perfectly satisfied that he would have incurred no danger.

Late in Sept. 1846, Mr. W. T. G. Morton called at the office of Dr. Jackson, and requested the loan of an India rubber bag, for the purpose of administering atmospheric air to a patient, in order to act upon her imagination, and to induce her to permit him to extract a tooth. He was dissuaded from the attempt by Dr. Jackson. There was also some conversation concerning nitrous oxide. Their conversation upon the above named subjects lasted for some time. It was finished, and no request had been made by Mr. Morton to Dr. Jackson to suggest to him any process, by which teeth might be extracted without pain. Mr. Morton had left the apparatus room, in which most of this conversation had occurred; he went into the office on his way to the street, when he was followed by Dr. Jackson, and stopped by him. Dr. Jackson then informed Mr. Morton, that he could impart to him a means of producing a general insensibility, during which, he was confident, surgical operations might be performed without pain. He communicated to Mr. Morton all that it was necessary he should know, for the performance of this experiment. He informed him, that the substance to be used was the vapor of sulphuric ether. He gave him directions concerning the degree of purity requisite in the ether to be used. He assured him of the certainty of the induction of the insensibility, and of the safety of the operation, if properly performed. He gave instructions in the most minute detail; so that nothing whatever was left for Mr. Morton to devise in any part of the process, for the successful performance of the operation. Dr. Jackson *distinctly* assumed the responsibility of the application.

It is evident from Mr. Morton's inquiry, respecting sulphuric ether, "Is it a gas?" that he was entirely ignorant of its appearance and qualities. He was incredulous as to the results, which Dr. Jackson assured him would be produced, and required *repeated* assurances from him. Relying on Dr. Jackson's knowledge and authority, Mr. Morton proceeded to his rooms to make the trial.

Thus it appears that Dr. Jackson instructed Mr. Morton upon every point relating to the new application of ether. He did not, to quote an expression often used, suggest merely to Mr. Morton this application for him to consider, whether it was a fit one among others of which to make trial; because Mr. Morton was not qualified to form any judgment about the matter. Dr. Jackson took upon himself the sole responsibility of the act, and would alone have been morally responsible, had the life of the patient been lost.

The ether was administered by Mr. Morton in exact conformity to the instructions of Dr. Jackson. He had procured the ether at the place recommended, and of the purity prescribed by him; he poured some of it upon a handkerchief, and held it close to the mouth of the patient. Insensibility soon ensued, the handkerchief was removed, and the tooth was extracted. The recovery from the insensibility was rapid and entire, and the patient declared, that he had felt no pain from the extraction of the tooth; and no unpleasant sensations during any part of the process. The instructions of Dr. Jackson had been followed in the most minute particular; and his assurances had been in every respect fulfilled.

The next day Mr. Morton called at the office of Dr. Jackson, and informed him of this successful experiment with the ether. Dr. Jackson expressed no surprise, as he expected this result.

The letter of Mr. Caleb Eddy, addressed to the surgeons of the hospital, is relied upon to prove that Dr. Jackson did not, at the time he communicated the discovery of etherization to Mr. Morton, appreciate its value, or foresee the extent to which it might be applied in the practice of surgery. Mr. Eddy states, that after Dr. Jackson had related to him the circumstances under which he had intrusted the discovery to Mr. Morton, he proposed the following question: "Dr. Jackson, did you know at such time, that after a person had inhaled ether, and was asleep, his flesh could be cut with a knife without his experiencing any pain?" To which the reply is alleged to have been given, "No, nor Morton either; he is a reckless man for using it as he does; the chance is, he will kill somebody yet."

Dr. Jackson remembers distinctly the object of his visit to the house of Mr. Eddy, and the conversation which took place at that time. Mr. Eddy has forgotten the general tenor of that conversation, and only remembers the detached expressions recorded in his letter, which, if taken out of their proper connection, would suggest the conclusion referred to. Dr. Jackson has assured the editors, that he called upon Mr. Eddy to protest against the taking out of a patent upon his discovery, and expressed his repugnance to having his name associated in any way with that of Mr. Morton. During the interview Dr. Jackson related to Mr. Eddy his original researches and experiments with sul-

phuric ether, and affirmed that the discovery of its efficacy to destroy the sensation of pain had been made in the year 1842. Mr. Eddy then asked Dr. Jackson, if, at that time, "he was aware, that after the ether had been inhaled, the flesh could be cut with a knife without the sensation of pain?" Dr. Jackson replied, "that he was satisfied it could be done, that he had not the least doubt of it, but still, that an actual operation should be performed before publishing the statement *as a fact;* and for this reason he gave Mr. Morton instructions to perform a dental operation upon a person under the influence of ether, before publishing his discovery." It appears, therefore, that Mr. Eddy has been able to recollect a part only of his conversation with Dr. Jackson, and that his testimony relates to separate and disconnected sentences, which, read together in the false connection in which he has put them, convey a totally different meaning from what was intended by Dr. Jackson. It is in proof, that, at and before the time of this conversation, Dr. Jackson entertained an entirely opposite belief from what Mr. Eddy would ascribe to him. The testimony of Barnes and McIntire is in point, and proves, beyond a question, that Dr. Jackson could not have used the expressions which Mr. Eddy quotes, and in the connection which he alleges. Barnes states that when Mr. Morton returned to the laboratory with an account of his first experiment, "Dr. Jackson expressed no surprise, but appeared as if he expected the result." McIntire testifies that "during the time he was in Dr. Jackson's laboratory he never heard him express any doubt about the effect which ether would produce in causing insensibility to pain." Peabody testifies that "Dr. Jackson always alluded to the effects of ether with the same confidence, so that when I learned the final success of the application I was not at all surprised." The deposition of Dr. Hitchcock meets this issue directly. Dr. Hitchcock had an interview with Dr. Jackson immediately after the discovery had been tested by Morton, at which time "Dr. Jackson stated that he had the utmost confidence in his discovery, and that he had no doubt that even the most severe surgical operations might be performed upon patients who had inhaled the vapor of pure sulphuric ether, with entire insensibility to pain." The editors are in possession of abundant evidence to the same effect.

Will any fair and unprejudiced mind now doubt that the discovery of the effect of the inhalation of ether to produce a state of complete and safe insensibility, during operations of a surgical nature, was perfect in the mind of Dr. Jackson on the 30th day of September, when he intrusted it to Mr. Morton?

We have no doubt that Dr. Jackson did, at this interview with Mr. Eddy, declare his deep regret at having confided so valuable a discovery to such a man as Mr. Morton; neither do we doubt that Dr. Jackson expressed fear lest the ignorance of Mr. Morton, and his recklessness in the use of ether, might endanger life. The testimony of many witnesses, the operators in Mr. Morton's office, proves that there was ground for this apprehension Dr. Jackson did not express his anxiety to Mr. Eddy alone; Dr. Keep states that "Dr. Jackson often said to him, that he regretted very much having first intrusted the discovery of etherization to Mr. Morton, and transferred to him the sole right to apply the agent, for his ignorance of its nature, and his recklessness in ordering its application, might be the occasion of injurious, if not fatal, consequences." The statement of Dr. Hitchcock is also to the same effect.

Hence arose, in part, Dr. Jackson's repugnance to having his name associated with that of Mr. Morton in any public reference to the discovery, and particularly in the "special notices" and advertisements which Mr. Morton inserted in the newspapers far and wide; a fact which his opponents have judged so material in the case. Dr. Jackson would naturally have elected some other and more dignified medium of publishing his discovery to the world, than the quackish advertisements of Mr. Morton.

Dr. Jackson's confidence in the value of his discovery is not to be disproved by such expressions as those imputed to him by Mr. Eddy. All the expressions of distrust attributed to Dr. Jackson were coupled with Mr. Morton's name and recklessness, not with the utility and safety of etherization. Even if he had lost his confidence in the utility of his discovery, the fact could not undo what he had already done. The discovery was already made and known to the world, and every day was adding new proofs of its inestimable value.

The fact of Dr. Jackson's refusing to give Mr. Morton a certificate, as stated by the latter in his memoir, that "ether was harmless in its effects," proves nothing but his unwillingness to figure in Mr. Morton's advertisements, and his prudence in refusing to make himself responsible for anything and everything Morton might, in his ignorance, do with an agent liable to the most dangerous abuse.

CHAPTER V.—THE PATENT.

Our proposition is, that Dr. Jackson's exclusive right to the honor of the discovery of the application of sulphuric ether, for the prevention of pain, is not invalidated by the connection of his own name with that of Mr. Morton in the patent.

It is well known that a patent was taken out in the joint name of Dr. Jackson and Mr. Morton, and that by the language of that instrument they were represented as joint discoverers. It is now contended, in behalf of Mr. Morton, that he is not estopped by that fact from maintaining the ground that he was the sole discoverer of etherization; that in permitting the name of Dr. Jackson to be associated with his own in the patent he was governed by the opinion of counsel, who now alleges that his advice was given under a misapprehension of the merits of the case. The assertion is, however, made, that Dr. Jackson is estopped from claiming the whole discovery, by the alleged fact "that he knew that Morton had applied for an

exclusive patent," that "he made no objection," and that "he was satisfied with making a professional charge for advice." The testimony to this effect comes mainly from two witnesses, Mr. Morton himself, and R. H. Eddy, Esq. To the statement which is made in the "memoir" of Mr. Morton, to the French Academy, relative to the taking out of the patent, we do not attach any credit whatsoever. It is contradicted by the most conclusive evidence, to wit, his own voluntary admissions. If the narrative which he gave to Dr. D. P. Wilson of his connection with the patent, sworn to by that witness, be true, then are the allegations in his memoir false. Dr. Wilson, let it be borne in mind, was an assistant in the office of Mr. Morton; he was engaged in the surgical department of dentistry; he administered the ether, from which responsibility Mr. Morton always shrank; and he had the entire confidence of his employer. Dr. Wilson testifies, that, being surprised at the phraseology of the patent, he sought from Mr. Morton an explanation of his connection with it. In reply Mr. Morton stated as follows: "That as he was the first person who had applied the ether, he supposed that he had a right to take out a patent in his own name, and for this end consulted R. H. Eddy, Esq., who so *advised him*, but suggested that Dr. Jackson should be made a party to the instrument, inasmuch as Dr. Jackson had suggested to him the new application of the ether; *that Dr. Jackson was opposed to any patent whatever, but that he at length yielded to the solicitations of himself and Mr. Eddy, that a patent should be taken out, recognizing Dr. Jackson as the discoverer of the new agent, and himself as its proprietor;* and that Mr. Eddy said that he (Morton) had a right to take out a patent in his own name, and as he was determined to do so, this was the only way by which Dr. Jackson could secure or save to himself the credit of his discovery."

This was a responsible statement, made by Mr. Morton on the eleventh day of November, in the year 1846. He told the truth then; he did not then claim the discovery as his own; "he was its proprietor," and to Dr. Jackson belonged the whole credit of the "new idea." Eight months after, in the excitement of a controversy, he declares that "Dr. Jackson did not oppose his taking out an exclusive patent;" that Dr. Jackson thought he would do well with it, and only intended "to make him a professional charge for advice;" leaving it to be inferred that Dr. Jackson had no immediate connection with the discovery, but awarded it to him.

The friends and advocates of Mr. Morton have been compelled to admit that he sometimes practised duplicity, in confessing that Dr. Jackson had communicated the discovery to him, and that his right under the patent was merely the right of a purchaser; but this duplicity they would now turn to his advantage by saying that his object in so doing was to avail himself of the scientific reputation of Dr. Jackson, and to secure to the discovery the authority of his name. But in Mr. Morton's narrative to Dr. Wilson there was no deception; it was a deliberate confession to a friend and an assistant, and he is bound by it; the statement in his memoir comes "too late."

The testimony of Dr. Payne is in point. He has been using the ether in the city of Troy; an injunction is served upon him by one of Mr. Morton's agents, and he thereupon comes to Boston to see the proprietor of the discovery, and to satisfy himself in relation to the validity of the patent, which he has infringed. He seeks an interview with Mr. Morton, and asks, why it is that his name appears in the patent, if Dr. Jackson was the sole discoverer of the new application of ether. Dr. Payne has tried the new agent; he is perfectly satisfied of its safety; he does not care whether Dr. Jackson or Mr. Morton be its discoverer; there is no object in deceiving him; neither the assurances of Dr. Jackson, nor the authority of his name, will add aught to his confidence in the discovery; he merely seeks information about the patent. Dr. Payne testifies, "that he questioned Mr. Morton about the patent, how he came to have any interest in it, &c." Mr. Morton replied, "*that he had been very fortunate in effecting an arrangement with Dr. Jackson, before any one else had the opportunity; that he had purchased of Dr. Jackson, who, himself, objected to any patent, all his right and interest in the profits which might result from the discovery; and that his interest in the patent was a purchased one alone.*" Dr. Payne also states, that Morton only spoke of himself "as the fortunate person, who, by consequence of first receiving the idea of etherization from another, had been enabled to secure to himself great pecuniary benefit." This statement was made by Mr. Morton early in the month of January, 1847. It cannot be reconciled with the language of his memoir.

The testimony of Dr. Robinson, of Salem, is to the same effect. After alluding to his interview with Mr. Morton, he says, "I was convinced, from Mr. Morton's statements and admissions, that his own interest in the discovery was exclusively a pecuniary interest. He did not seem to consider himself in any sense connected with the originating of the discovery, but appeared to think of nothing but his pecuniary right." Refer, also, to the conversation quoted in Mr. Blaisdell's deposition. Mr. Morton tells him "that he is about to take out a patent upon the new application of ether," and Mr. Blaisdell asks how he could do so, since Dr. Jackson, by his own admission, was its discoverer. In reply, Mr. Morton states that he had purchased of Dr. Jackson his right to the profits of the discovery, and that Dr. Jackson had assigned his whole interest to him, for, said he, "*Dr. Jackson will have nothing to do with any patent.*" This interview occurred immediately after the discovery had been intrusted to Mr. Morton. Will the friends of Mr. Morton presume to say that he was deceiving Blaisdell, from considerations of mere expediency? Not long afterwards, Mr. Blaisdell was employed by Mr. Morton to act as his agent

for the sale of licenses under the patent, and he says that he uniformly, in accordance with the instructions of Mr. Morton, informed purchasers that Dr. Jackson was the discoverer of the new agent, and that he (Morton) was its proprietor. Were these directions given to his agents in order that they might thereby inspire confidence in the discovery? Had Mr. Morton so little confidence in himself and "his discovery" that the name and authority of Dr. Jackson were necessary to give it credit? We do not believe that his biography will afford another instance of so great modesty, and distrust of his own merit.

We next invite attention to the letter of R. H. Eddy, Esq., to the surgeons of the Mass. General Hospital. That document is important, not so much as a statement of facts as of opinions. To many of the facts stated we yield a willing assent, but to the inferences, and conclusions of Mr. Eddy we shall not pay so much respect. With the alleged reasons which induced him to regard etherization as the joint discovery of Dr. Jackson and Mr. Morton, we shall have nothing to do; we do not propose to answer the question—"What constitutes a discovery?" To the general tone of the deposition we do object. Mr. Eddy, "has learned that Dr. Jackson utterly refused to submit his claims to a just arbitration;" he "had understood from Dr. Jackson that he had some connection with Dr. Morton in making the discovery;" he "is fully convinced that Dr. Jackson thought the whole matter of little value or importance, and was willing that Morton should do what he pleased with it, so long as he did not couple his (Dr. Jackson's) name with it;" "after he had prepared the specification for a patent, Dr. Jackson fully approved of it;" "it is a matter of indifference to him to whom the world may ultimately award the honor of being its benefactor for having given to it the great discovery in question," &c. We say, therefore, that the general character of the deposition is partial; that it betrays a want of fairness, and a judgment biased by interest. Mr. Eddy's opinions, if relied upon, would force the following conclusions: first, that Dr. Jackson shrank from submitting his claims to the arbitrement of a suitable umpire; second, that he did not regard himself as the exclusive discoverer of etherization; third, that he had but little confidence in the discovery, and was willing that it should be patented by Mr. Morton; fourth, that Dr. Jackson was glad to receive ten per cent. on all sales of licenses under the patent, as an equivalent for the part which he had in the discovery.

It is needless to add, that conclusions like these would do great injustice to Dr. Jackson. We propose to account for this manifest bias on the part of Mr. Eddy in favor of the pretensions of Mr. Morton. Our argument is a legitimate one, and supported by high authority. We say that a party who is interested in a matter in question is not competent to prove it. The facts which he states are liable to be colored, and the inferences which he draws are not the result of impartial investigation; feeling usurps the place of judgment, and the party is thereby really, though perhaps unconsciously, misled.

Now Mr. Eddy will not deny that he had an interest in Mr. Morton's patent; he will not deny that he expected to realize a large profit from the discovery in Europe; indeed, it is admitted, in the argument of Mr. Dana, that he was interested to the amount of fifty per cent. in the European rights, and when they were applied for both Mr. Morton and himself believed that they would be productive of great pecuniary emolument. The testimony of Hunt, Wilson, and Hemmenway, may be referred to on this point. It is apparent, therefore, that Mr Eddy must have testified under a strong bias; that his evidence has not the merit of entire impartiality: and that he must have leaned in favor of that party to whom his interest inclined him.

But, says Mr. Eddy, at the close of his letter, "I have endeavored to state a few facts relative to the early discovery of the effect of sulphuric ether in surgical operations. *In doing so, I am influenced by no other motives than to render justice to whom it may be due. It is a matter of indifference to me to whom the world may ultimately award the merit of being its benefactor for having given to it the great discovery in question.*" It would have been the part of wisdom in Mr. Eddy to have omitted that paragraph. We submit, upon the evidence already published by Mr. Morton, that it was not a "matter of indifference" to Mr. Eddy to whom belonged the honor of the discovery. If, in the month of June, 1847, the date of the letter referred to, the English government had, as was anticipated, made a large donation to the discoverer of etherization, would it then have been a "matter of indifference" to Mr. Eddy who was its discoverer?

There is another inconsistency in his testimony. Mr. Eddy states that "*he found Dr. Jackson tinctured with old and exploded prejudices against patents, which he labored to remove;*" but he afterwards goes on to say, that "Dr. Jackson's disinclination to associate with Mr. Morton in a patent arose from no disposition, ever evinced to me, to give the public a gratuitous use of the discovery." If Dr. Jackson was thus, in principle, opposed to patenting any new medical agent, if his prejudice against patents was so active and confirmed, if Mr. Eddy labored to remove it, it is very marvellous that Dr. Jackson should never have "evinced to him any disposition to give the public a gratuitous use of the discovery."

The allegation that the chief objection with Dr. Jackson to taking out a patent upon his discovery arose from what he supposed would be the action of the Massachusetts Medical Society, and also the statement that Dr. Jackson regarded the discovery of little value, are completely answered by the testimony of many witnesses. It is remarkable that Dr. Jackson should have expressed, to medical gentlemen, entire confidence in his discovery, and asserted that even capital cases in surgery

might be performed upon patients who had inhaled the vapor of pure sulphuric ether, with complete insensibility to pain, but, on the other hand, that he should have given Mr. Eddy reason to infer that "he thought the whole matter of little value or importance."

Without further comment upon the communication of Mr. Eddy, we submit the following facts relative to Dr. Jackson's connection with the patent. They are taken from the pamphlet published by Dr. Gay, and from certified documents in the possession of the editors; and it will be observed that this account of the patent is fully supported by the admissions, and positive and unsolicited declarations, of Mr. Morton, as sworn to by various witnesses.

A few days after Dr. Jackson had communicated his discovery of the effect of the inhalation of sulphuric ether to Mr. Morton, that gentleman applied to Mr. R. H. Eddy, who was a solicitor of patents, to secure one for himself. Mr. Eddy advised Mr. Morton, that, as he had made the first application of the discovery, he was entitled to the protection of the patent law, and that he could take out a patent in his own name.

Upon being informed of this movement on the part of Mr. Morton, and of the opinion which the solicitor had given in relation to the matter, Dr. Jackson called upon Mr. Eddy, and asked him why he had so advised Mr. Morton. Mr. Eddy then endeavored to explain to him, that, as Morton had performed the first operation on a patient who had inhaled the ether, he had a right to take out a patent in consideration of that application; but he urged Dr. Jackson, at the same time, to unite with Mr. Morton in applying for a patent, whereby his own right to the discovery might be recognized in the petition to be filed at the patent office. Dr. Jackson replied that *he was opposed to patents*, and that he did not deem it consistent with the principles of a liberal science to monopolize any discovery. He further objected, as an additional argument against taking out a patent upon the discovery, that it would be contrary to the spirit of the rules of the Mass. Medical Society. Dr. Jackson was then told that he would "lose his discovery;" that Morton would patent it, and would swear that "he believed it to be his own," and thus procure a kind of recognition at the patent office that he was the discoverer. Dr. Jackson was given distinctly to understand, that, in order to save to himself the honor of his discovery, his name must appear in the patent, and that otherwise the public would attribute it entirely to Mr. Morton. He was also informed that if he should take out a patent in conjunction with Mr. Morton, he might assign to him (Morton) his whole interest in the instrument, and thereby avoid a copartnership in the resulting profits.

Upon these assurances of the solicitor, in whose friendship and professional capacity he then had implicit confidence, and for the single purpose of securing the credit of his discovery, Dr. Jackson finally consented to the proposition of Mr Eddy, and the patent was directed to him.

"There is no doubt whatever in the minds of Dr. Jackson's friends," concludes Dr. Gay, "that he consented to it for the sake of preventing Mr. Morton from holding a legal instrument in his possession, with his own name alone in it as the discoverer. Dr. Jackson was surprised, upon reading the petition presented for his signature, that Mr. Morton was fully recognized in it as a joint discoverer with himself, but he had agreed to the arrangement, and he supposed that the expression referred to was a necessary part of the technical wording of that paper. If, for the subordinate part performed by Mr. Morton, the patent laws were such as to permit him to join with Dr. Jackson in taking out a patent, the wording of the instrument referred to could not have been different. The patent has always been the exclusive property of Mr. Morton; he gave to Dr. Jackson a bond promising him a certain percentage of the profits that he might derive from it. Dr. Jackson has received no pecuniary advantage from this patent, and he has determined that he never will receive any. He has destroyed the bond."

The charge made by Mr. Dana, "that Dr. Jackson not only made no objection to Dr. Morton's being joined in the application, (for a patent,) but was glad to be included in it himself, even at the lowest rate of compensation," is not supported by Mr. Morton's own testimony; it is emphatically contradicted by the statement of Mr. Eddy, that Dr. Jackson expressed great unwillingness that his name should be associated with Mr. Morton's in any patent.

Again; Mr. Dana most unjustly asserts, in a preceding sentence, that "the idea of a right in the patent came only (to Dr. Jackson) from the partiality and legal caution of his friend Mr. Eddy;" and again, relying upon some minutes with which Mr. Eddy has furnished him, he labors to force the conviction that Dr. Jackson manifested a feverish desire to secure a liberal share of the profit to be realized upon the European patents. The whole argument relative to this matter is unwarranted by the evidence, and is in the highest degree disingenuous.

Dr. Jackson's motives for insisting upon a percentage of the proceeds of all sales of rights to use the ether, both in Europe and in this country, were the same. His first object was to defeat the taking out of any patent whatever, and when advised that this was impossible, he was unwilling that those parties, who were intent upon making his discovery a means of profitable speculation, should reap the whole benefit. That he did not wish to make anything out of the public is sufficiently proved by the fact that he immediately surrendered his share of the proceeds to the public. It is proper in this connection to state, that Dr. Jackson was, in the month of November, 1846, notified by Mr. Eddy that he had in his possession, for him, (Dr. Jackson,) a considerable

sum of money, which had been realized from the sale of patent rights, and that Dr. Jackson indignantly refused to accept it. He never taxed the public for his discovery, and has never received a dollar for the use of ether.

CHAPTER VI.

INTRODUCTION OF THE DISCOVERY OF ETHERIZATION TO THE MASS. GENERAL HOSPITAL.

It is asserted that "so long as the discovery was under test, and its result was uncertain, Dr. Jackson was unseen and unheard," and that he did no act intimating that he had any connection with the discovery, until its value had been fully shown by two experiments at the Hospital. These allegations are disproved by abundant testimony.

There is no doubt, upon the evidence presented, that the Massachusetts Hospital was really indebted to Dr. Jackson, not only for the discovery of etherization, but for the privilege of first testing it in a capital operation, and for the right to use it freely, at a time when its general use was restricted by a patent. The testimony of Mr. Barnes is conclusive upon this point. That witness states that on the afternoon of the 30th of September, or of the following day, Mr. Morton called at the laboratory of Dr. Jackson, to announce the success of his first experiment. He stated "that he had tried it (the ether) upon a patient with complete success, for while he extracted a tooth the patient was insensible and knew nothing about it. Mr. Morton intended soon to perform another extraction. Dr. Jackson then said to him, 'You must go to Dr. Warren, and obtain his permission to administer it at the Massachusetts General Hospital, and if possible it should be in a capital operation; for people will not believe in the insensibility to pain in case of a mere tooth, since it is very common for patients, in an ordinary case, to say that it did not hurt them, when the twitch is very sudden and the operation skilfully performed; this proof would not be regarded by the public as satisfactory.' After some argument, and Dr. Jackson's further insisting upon it, Morton promised to go to the Hospital."

Mr. Barnes also testifies, "that some time after this, when the experiments at the Hospital had proved successful, and while the patent was being negotiated, the right of using the ether having been assigned to Morton, Dr. Jackson urged him, in my presence, to present the free use of it to the Hospital, saying that they would not buy a patented article, and it ought to be given to the poor. Morton was very reluctant to do this, and asked if there were not some pay patients at the Hospital, who could afford to remunerate him for administering the ether. This was argued a long time, and Morton finally said that he would do so." We think that this positive testimony completely disproves the assertion of Mr. Morton, that he agreed with Hayden, prior to this visit to Dr. Jackson's laboratory, that it was best to announce the discovery to the surgeons of the Hospital. The reader is already satisfied how much credence is due to the statements of those gentlemen.

It appears, therefore, that Dr. Jackson sent Mr. Morton, as his messenger, to ask permission of Dr. Warren to test the ether in a surgical operation at the Hospital, and that Morton was an unfaithful messenger, and did not mention the name of the physician who sent him, and that he managed to have the operation done without letting Dr. Jackson know when it was to be performed, so that he did not witness the first operation; a fact which has been dwelt upon by his opponents with great emphasis. After obtaining permission from Dr. Warren to apply the ether at the Hospital, Mr. Morton returned to Dr. Jackson's, and informed him of the fact, but did not tell him when the operation was to be performed, and he never knew of it until after it was done. This was the 16th of October. Soon afterwards, Dr. Jackson went to the copper mines of Maryland, but upon his return to Boston he attended the first operation of which he received notice, neglecting important engagements to do so. We submit, therefore, that the assertion, that "no experiment was tried, to Dr. Jackson's knowledge, *or under his direction*, although he thought the experiment on the tooth not satisfactory," is without foundation.

Some allusion has been made by Mr. Dana, and in the Report of the Trustees of the Hospital, to a conversation which took place between Dr. J. C. Warren and Dr. Jackson, later in this month, in regard to his (Dr. Jackson's) connection with the discovery, and also to the request which Dr. Warren extended to him to administer the ether during a capital operation which was to be performed on Saturday, the 31st day of October. The facts are as follows: On or about the 29th day of Oct., Dr. Warren was a second time informed by Dr. Jackson, at his (Dr. W's) house, that he was the exclusive discoverer of etherization, and that he had first communicated it to Mr. Morton. Dr. Warren again expressed his delight that the discovery had been made by a scientific man, and then made the request referred to, and upon the following day sent a note to Dr. Jackson containing the same invitation. Dr. Jackson declined accepting the invitation, for two reasons; one, that he was going out of town, and the second, that he could not do so consistently with his arrangements with Mr. Morton. Dr. Jackson was absent in Maryland when this operation was performed, and the arrangements with Mr. Morton, spoken of, relate to the patent which had already been applied for, and Dr. Jackson had assigned his whole interest in that instrument to Mr. Morton. So scrupulous was Dr. Jackson to observe the spirit of that assignment, that a very few days before, when sending his own sister to Dr. Keep to have some teeth extracted under the influence of ether, he had requested Dr. Keep to ask Morton's consent to the application of the agent.

This magnanimity on the part of Dr. Jackson should be contrasted with the mean and selfish spirit evinced by Mr. Morton in neglecting to notify Dr. Jackson of the first experiments which were performed at the Hospital. Dr. Jackson

manifested no feverish impatience to proclaim his discovery to the world, and to demand its gratitude; he was not ambitious for glory, and asked no reward; and he did not publicly claim the discovery as his own until it was in danger of being appropriated by another.

The editors are assured that Dr. Jackson felt great interest in the operation referred to, and he had entire confidence in its complete success. He mentioned it, during his absence, to Dr. Gale of the patent office, to Dr. Hare of Philadelphia, and Mr. Tyson of Baltimore, and he informed those gentlemen, and others, that they would soon read a notice of the first painless capital operation in surgery. The editors have also in their possession another letter from Dr. Warren to Dr. Jackson, desiring him to give some practical account of the new agent for producing insensibility to pain, and to procure for the Hospital the right to use the same, and the apparatus for its inhalation. The testimony of Barnes also proves that Dr. Jackson, so soon as it could be effected, induced Mr. Morton to surrender the right of the free use of ether, &c., to the Hospital. This arrangement was wholly the work of Dr. Jackson, and it was only by dint of arguments addressed to Morton's pecuniary interest that he finally prevailed upon him to accede to it. Mr. Morton was unwilling to make a free gift of his patent right, and he never would have done so, had it not been suggested to him that it was good policy to interest the surgeons of the hospital in the discovery, and that it would remove objections to the patent if it was made free to the poor. In justice to Dr. Jackson, we would add, that he did not resort to this last appeal until forced to do so by Morton's selfish manœuvering. Even then Mr. Morton was unwilling to grant an unrestricted right, but signified his wish to tax those patients who were able to pay for the benefit of the discovery. Thus was the hospital really indebted to Dr. Jackson for the free right to use the ether.

Had application been made to Dr. Jackson, by the surgeons of the Hospital, before he had transferred his pecuniary interest in the discovery to Mr. Morton, we are assured that he would most cheerfully have reserved to that institution the free use of the discovery. He did the best that he could do, after the transfer had been made, inducing Mr. Morton to surrender that right, and it is to Dr. Jackson that the thanks of the trustees of the Hospital should have been presented.

It is claimed, however, by the report of the trustees, that credit is due to Mr. Morton for tendering the free use of ether to similar institutions throughout the country. This meritorious act was unfortunately not done, if done at all, until after the patent had ceased to be a source of profit. The allegation that an unrestricted right was tendered to the army and navy of the United States is not sustained by fact. On the other hand, it is known that Mr. Edward Warren went to Washington in behalf of Mr. Morton, and endeavored to procure an appropriation of twenty thousand dollars from Congress for the purchase of this right. The petition presented by Mr. Morton is described "*as offering to the government, for the use of the army and navy, the purchase of his process for preventing pain in surgical operations.*" It was referred to a special committee in the senate, of which Mr. Sturgeon, of Pennsylvania, was chairman. That committee, however, never met, nor was any action had upon the subject.

Upon the occasion of this movement on the part of Mr. Morton, Dr. Jackson expressed his deep mortification to the President of the United States that any patent had been taken out upon the discovery, and he was especially indignant that the discovery had not been freely given to the army and navy.

We submit, therefore, upon the evidence already adduced, and upon facts well known to this community, that Mr. Morton manifested a determination to monopolize the discovery. There is no doubt that he intended to make the dentists of Boston tributary to him, that he at first refused to sell any rights in the city, and that he considered himself "sufficient for the dentistry of Boston." Mr. Morton also sent his agents to all parts of the country to dispose of licenses under his patent, and it is known that in many instances, in this vicinity, legal process was commenced against purchasers, who had given notes for the amount to be paid by them for the use of the ether, even after the patent had been in fact abandoned.

Dr. Jackson always denounced this monopoly; he asserted that the patent was an improper one, and that he lamented the connection of his name with it, for the discovery was not a joint discovery. Dr. Jackson's protest against the patent was everywhere read, and through his instrumentality alone the use of ether was made free to "suffering humanity."

CHAPTER VII.

It is proper to notice *Dr. Horace Wells'* claims to the discovery in controversy. This dentist, following out the suggestion of Sir Humphrey Davy, that nitrous oxide might probably be used with advantage, as an anæsthetic agent in such surgical operations as were attended with no great effusion of blood, extracted teeth from several patients, in the autumn of 1844, under the influence of this gas, without their experiencing any pain. Dr. Wells abandoned the use of nitrous oxide, however, in December of the same year, and there is no pretence that he, or any person in his behalf, or in consequence of his experiments, subsequently used this gas as an anæsthetic agent—a fact of itself sufficient to show that, notwithstanding his success in a few instances, there must have been decisive objections to the continuance of its use. This conclusion is amply confirmed, by a statement published to the world a long time ago, and republished by Mr. Dana in his pamphlet, and which, moreover, is not denied by a champion of Dr.

Wells' claims, in a communication in the Boston Medical Journal for May, to wit, that Hon. James Dixon, member of Congress from Connecticut, having applied to Dr. Wells to administer this gas to him, in a case of severe toothache, Dr. Wells informed him, that having met with only partial success, he had abandoned the use of it, and advised him not to take it.

As to sulphuric ether, Dr. Marcy recommended its use to Dr. Wells. An experiment was performed, by whom it is not stated, upon a patient under its influence, at Dr. Marcy's office. It has not been said that the experiment was successful. The inference is that it was not. Dr. Wells, in his pamphlet, states that Dr. Marcy advised him, after this experiment, to continue to use nitrous oxide in preference to sulphuric ether, *which advice he followed.*

On such facts as these, and they are derived from Dr. Wells' own pamphlet, it is preposterous to set up any claims, in his behalf, to the authorship of the ether discovery.

It is claimed for Dr. Wells that he imparted to Dr. Jackson the idea of using sulphuric ether in surgery. He must have imparted the idea, if at all, after sulphuric ether had been recommended to him by Dr. Marcy, and after, in consequence of Dr. Marcy's advice, he had *wholly abandoned the use of it.*

Now, it is not probable that Dr. Wells would have thought of imparting an idea to Dr. Jackson, which, as we have seen, he had entirely repudiated in his own mind. And even if, having repudiated, he had still communicated it to Dr. Jackson, would he have been deserving of any credit, if Dr. Jackson, subsequently, and in consequence of his suggestion, discovered that sulphuric ether *was* available as an anæsthetic agent. The fact is, however, that Dr. Wells never said anything whatever to Dr. Jackson, or to any one in his presence, in relation to the use of sulphuric or any other ether vapor, as applicable to prevent pain in surgical operations, and even if it were otherwise, it is proved that Dr. Jackson had long before imparted the very same idea which it is claimed that Mr. Wells imparted to him, to Mr. Bemis and Mr. Blake. (See their affidavits.) A Dr. Hickman, as it appears from the London Lancet, published a pamphlet in 1824, in which he describes surgical operations rendered painless to his patients, by the inhalation of carbonic acid gas.

Whatever credit may be due to Mr. Wells for his meritorious exertions to demonstrate the supposed applicability of nitrous oxide, in surgical operations, his experiments with that gas produced no result, of permanent value, except to prove its general unavailability as an anæsthetic agent, and they have had no more connection with the discovery of etherization, than have those performed by Dr. Hickman with carbonic acid gas.

As to nitrous oxide, Dr. Jackson has had no controversy with Dr. Wells, and he has never believed that it could be made generally useful in surgery.

CHAPTER VIII.

It is claimed that not only does the glory of the discovery, itself, belong to Mr. Morton, but that to him alone is to be paid the honor of spreading its blessings through the world. We simply admit that Mr. Morton was, sooner or later, the bearer of the discovery wherever a loaf or a fish, the lure of a price or a reward, enticed him. He claims to have tendered, through Congress, its free use to the army and navy of the United States. The editors are in possession of documentary evidence, furnished to them by members of Congress, showing the tender to these departments of government, not of its *free use*, but "*of its purchase*," as he had already tendered it to the Massachusetts General Hospital. Mr. Morton, with most disinterested alacrity, made it, according to Mr. Bowditch, "free as God's own sunshine," wherever, and provided always, there was the reciprocal gift of a good and valuable consideration. He was willing that the surgeons and dentists of the country should prevent, he cared not how much of human pain, if they gave him their ready money and their "notes to balance," for that which he had no right to sell at all. The editors are in possession of facts indicating that Mr. Morton would even have been willing that all the hospitals and armies and navies of the world should have paid him tribute, provided he could subsequently have enjoyed the sublime satisfaction of relieving their sufferings; and tributaries they might have been for many years to come, if Dr. Jackson had been prevailed upon to allow the patent to be taken out in his own name, as sole discoverer, and had then assigned it to Mr. Morton, who would thereupon have had a right to sell a discovery, which Dr. Jackson, as soon as he found that he was under no obligation to Mr. Morton and his co-partners, presented freely to the world.

But Mr. Morton did *not*, in point of fact, precede Dr. Jackson in the introduction of the discovery into general use. Nearly all the different countries of Europe received their first definite knowledge, if not their first actual intelligence, of it from Dr. Jackson; and it was through the influence of his distinguished scientific friends that its reputation was there established. Dr. Henry J. Bigelow's paper, the same which has been alluded to as published in the London Lancet, served but to mystify and conceal the true nature of the agent employed; and we know, from the highest authorities, that it was generally discredited until Dr. Jackson made his communication to the "*Academie des Sciences*" at Paris. Immediately after its introduction into Europe by Dr. Jackson and his scientific friends, he received works dedicated to him by medical writers in France and Italy, indicating to whom they considered their own countries indebted. The discovery was communicated by Dr. Jackson to Prussia. It was made public in Giessen on Christmas day. Dr. H. J. Bigelow had gone before, but had been received without notice, and had secured no place in the confidence of the

medical faculty of that city. Upon Dr. Jackson's authority alone was the discovery accredited, and put to trial.

A letter from Dr. Jackson contained the first intelligence of the discovery which reached the surgeons of Vienna; and they, relying upon his authority, and acting in obedience to his "precise and cautious directions," subjected it to an immediate test, upon the successful issue of which, a burst of applause rang through the operating room, and the name of Jackson was on the lips of every spectator, indicating from whom the discovery was there received. At St. Petersburg, and in Sweden, and in the United States, the same source is acknowledged. It was communicated by Dr. Jackson to the East Indies, in a long and carefully written letter of instructions to Dr. Parker, in the winter of 1846.

Upon the testimony herein written, the claims of Dr. Jackson, and the doings of Mr. Morton's defenders, are submitted to the world, to which, through Dr. Jackson, as its providential benefactor, the discovery now freely belongs. The world has not murmured, and it will not murmur, that Dr. Jackson did not sooner communicate to it a discovery already known to his own mind; or if, like the few envious maligners, who are always boding ill from their hollow oaks, it had murmured, its murmurs would long ere this have been forgotten in its deep and fervent gratitude.

TESTIMONY.

I, Don Pedro Wilson, of Boston, County of Suffolk, and Commonwealth of Massachusetts, on oath depose and say, that I was an assistant in the office of Dr. N. C. Keep, of this city, during the year next preceding the eleventh of November, A. D. 1846. While with Dr. Keep, I formed the acquaintance of Mr. W. T. G. Morton, and was in the habit of frequently visiting him, at his office, in Tremont Row.

After the discovery, by Dr. Charles T. Jackson, of this city, of the application of ether to produce insensibility to pain during operations of a surgical nature, I had several conversations with Mr. Morton in relation to the circumstances under which Dr. Jackson had communicated the discovery to him, and the nature and extent of the interest which he had acquired therein, by virtue of his purchase, from its author, of the pecuniary benefit which should result therefrom.

Respecting the authorship of the discovery, I do not feel the least embarrassment or doubt, for my opinion has been wholly founded upon the narrative and declarations of Mr. Morton, in which, uniformly, and without reserve, he ascribed its authorship to Dr. Jackson, never speaking of himself otherwise than as the first and fortunate person to whom Dr. Jackson had communicated it.

I here speak of the time which intervened between the eleventh day of November, A. D. 1846, or thereabouts, and the month of February then next ensuing, when Morton *first* claimed the discovery to be his own.

On the aforesaid eleventh day of November, I concluded a contract with Mr. Morton to become an assistant in his office. During this month I had conversations with Morton, in which he expressly stated that "he was indebted to Dr. Jackson for the idea of the new application of ether, and had received instructions from him how to apply it."

Immediately upon Morton's receiving his patent from Washington, which was within a few days of the time of my entering the office, being surprised at the phraseology of the patent, which, being taken out in the name of both Dr. Jackson and Mr. Morton, declared them to be joint discoverers, I asked Morton for an explanation. He related to me, in substance, the following facts respecting the circumstances under which the discovery had been communicated to him: "That a lady, upon one occasion, called at the office to procure a set of artificial teeth; that it became necessary to extract several stumps; that the lady was timid and sensitive, and shrunk from the operation; that in order to prevail upon her to submit to the instrument, he determined, in some way, to act upon her imagination, and for this purpose went to the laboratory of Dr. Jackson to procure an India rubber bag, which he proposed to inflate with atmospheric air, and then persuade the patient to inhale from it, stating to her, at the same time, that she would experience no pain from the operation; that Dr. Jackson scouted the idea of practising any such deception, directing him to apply the vapor of pure sulphuric ether with a handkerchief or folded cloth, which would render the patient perfectly insensible, when he could extract her teeth without her knowing it; that he instantly seized upon the new idea, and immediately commenced his first experiments with the ether."

This narrative, received from Morton's own lips, was confirmed by statements and expressions made by him, and by the assistants and others connected with the office, from day to day.

Morton stated, "that as he was the first who had applied the ether, he supposed that he had a right to take out a patent in his own name, and for this end consulted R. H. Eddy, Esq., of this city, who so advised him, but suggested that Dr. Jackson should be made a party to the instrument, inasmuch as Dr. Jackson had suggested to him the new application of the ether." Morton also stated, "that Dr. Jackson was strongly opposed to any patent whatever, but that he at length yielded to the solicitations of himself and Eddy, that a patent should be taken out, recognizing Dr. Jackson as the discoverer of the new agent, and Morton as its proprietor; and that Eddy said, that although he (Morton) had a right to take out a patent in his own name, and had determined to do so, this was the only way in which Dr. Jackson could secure, or save to himself, the credit of his discovery."

I was in the office of Mr. Morton until April, A. D. 1847, and had charge of the surgical department of dentistry; but nothing occurred to change, or in the least degree modify, the belief which I had previously entertained in relation to the discovery of etherization. On the contrary, Morton's directions and instructions to the assistants in the office, and to the agents whom he sent abroad to sell rights under his patent—the manner and frequency with which the name of Dr. Jackson was associated with the origin of the "*new idea*," and the advice and authority of Dr. Jackson with our experiments in the office—only strengthened my former belief. During the early application of the ether, Dr. Jackson was constantly spoken of in the office, and without contradiction from Morton, as the sole discoverer of etherization, notwithstanding our knowledge of the language of the patent, which

declared Dr. Jackson and Mr. Morton to be its joint discoverers. It was an every-day remark in the office, with assistants and students.

In my administration of the ether, I was guided by, and relied solely upon, the advice and assurances of Dr. Jackson, received through Morton.

We never dared to follow Morton's own directions. If we had followed even the few which he volunteered upon his own responsibility, and not confined ourselves strictly within the directions and authority of Dr. Jackson, received as aforesaid, and the teachings of our own observations and experiments, I have no doubt that dangerous and even fatal results would have ensued, and etherization, at that time, have resulted in a failure.

Morton, evidently, was afraid of the effects of the ether upon himself. He never gave me any reason to suspect that he ever inhaled it. I never knew him to apply it to a patient in the office. This was from a most apparent fear, and shunning of responsibility. I was in and out of Morton's office quite frequently during the summer, and the month of September, of 1846. I never saw sulphuric ether there; never heard Morton speak of it, that I can remember; never perceived its odor about the person of Morton, or otherwise. I think it could not have been used in the office without my having perceived its odor.

There was a small vial in the office containing chloric ether, which Morton stated to me he used to deaden the nerves of teeth—an article common among dentists for this purpose.

During the summer of 1846, I often heard Morton speak of a new discovery, which he was about to publish to the world, to which he was giving his whole energies; and which, to use his own words, "would revolutionize the whole practice of dentistry, and secure to him a fortune;" but he never hesitated to tell me and others that "it consisted in a new preparation for filling teeth, and a new mode of making teeth and setting them to plate." This was Morton's great hobby, during the summer of 1846, and during the month of September of the same year.

In the month of February, 1847, Morton, for the first time, pretended that the new discovery was his own, and that he had made the application of ether as an agent for producing insensibility to pain, a subject of study or experiment previous to the 30th of September, 1846. Soon after the setting up of this pretension by Morton, the affidavits of William P. Leavitt, Thomas R. Spear, Jr., and Grenville G. Hayden, were taken by an attorney of this city; I being sent from the room while these witnesses were examined together and their testimony drawn up. It was about this time also that Mr. Edward Warren became associated with Mr. Morton. As soon as the affidavits of Leavitt, Spear, and Hayden were taken, they, all at once, and for the first time, began to talk about Morton's experiments with the vapor of ether previous to the 30th of September, aforesaid; and I, for the first time, heard that Morton's earliest experiment had been performed upon a water-spaniel in the summer of 1846, and that there had been a demijohn of sulphuric ether in the office in the month of August of that year, and that Leavitt and Spear had, in that month, inhaled the vapor.

This language of the deponents aforesaid thus became, all at once, directly contradictory to all of their former assertions.

About the same time Morton undertook to explain his narrative and statements hereinbefore deposed to by me, by stating that his object in visiting Dr. Jackson's laboratory, as aforesaid, was to deceive him, and gather some information which would enable him to perfect the great discovery to which he had been wholly devoting himself during the summer.

The first time of Spear's inhaling the ether, to my knowledge, was near the middle of November, 1846, when he suddenly commenced inhaling it, and was, after that time, in the habit of inhaling it continually. I never knew of Leavitt's having taken the ether in any instance; and I feel very confident that I heard him state, sometime in the fall of 1846, that he had never inhaled it.

Mr. Edward Warren, the author of a pamphlet supporting Morton's claims to the discovery, was directly interested in Morton's patent. There was a contract in writing between them, by the terms of which it was provided that Warren should receive ten per cent. of the proceeds of all sales under the patent. The original contract I copied myself, at Morton's request, at a time when a large sum of money was expected to be realized from the patent.

I have heard Morton state that Eddy would not take one hundred thousand dollars for his (Eddy's) interest in the matter.

DON P. WILSON.

SUFFOLK, ss. May 2d, 1848, Boston.—Sworn to before me

F. K. BARTLETT,
Justice of the Peace.

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I, Horace J. Payne, of the City of Troy, County of Rensselaer, and State of New York, surgeon-dentist, depose and say, that in the early part of December, in the year eighteen hundred and forty-six, I commenced applying the vapor of ether for the purpose of producing insensibility to pain during operations of a surgical nature. This was after I had heard of the discovery of the preparation by Dr. Charles T. Jackson, of the city of Boston. About this time Dr. Clark, of Lansingburg, of the aforesaid county of Rensselaer, called at my office in Troy, and desired me to inform him of the nature of the agent I was then applying, and also to grant or sell to him the right to use it. After some further conversation, he left my office, proposing to meet me again in relation to the subject the same evening. He did not call as appointed. I soon after heard of him in the city of Boston, where he had gone, as I supposed, to consult with the patentees of the new discovery.

Dr. Clark purchased of Dr. W. T. G. Morton, as he afterwards informed me, a right under the patent for this and several of the adjoining counties, and immediately upon his return to Lansingburg served a notice upon me to abandon the application of ether for the purposes before mentioned. Soon after, Dr. Clark sold a right for the city of Troy to Dr. A. Bardwell, and I was notified by Dr. Blake, of Boston, who represented himself to be the agent of Dr. Morton, to abandon the use of ether in my practice.

I then attempted to negotiate with Dr. Bardwell for the privilege of employing the new agent conjointly with himself in the city of Troy. Failing, however, in this, I determined to go to Boston and inform myself fully in relation to the patent, and if satisfied of its validity, to purchase a right under the same for the state of Ohio.

I went accordingly to the city of Boston on the

second day of January following, and at once sought an interview with Dr. Morton. I had a protracted conversation with him respecting the use and effect of the vapor of ether, its discovery, and the patent which had been taken out thereupon. During this interview, Dr. Morton stated repeatedly and emphatically that Dr. Charles T. Jackson, of Boston, was the sole discoverer of the new agent for producing insensibility to pain, and that Dr. Jackson had communicated it to him. Furthermore, that all the knowledge which he possessed in relation to its properties and its application had come to him from Dr. Jackson, and that he never had any idea of applying sulphuric ether, or that sulphuric ether could be applied, for the aforesaid purposes, until Dr. Jackson had suggested it to him, and had given him full instructions. I then questioned Dr. Morton with regard to the patent, how he came to have any interest in it, &c. He replied that *he had been very fortunate in effecting an arrangement with Dr. Jackson before any one else had the opportunity, and that he was the first man to whom the discovery had been communicated by Dr. Jackson.* Dr. Morton also stated that he had purchased as his right and interest to the pecuniary profits which might result from the discovery of Dr. J., who himself objected to any patent, and, added he, "I have made a great bargain."

Dr. Morton then went on to say that if I felt any apprehension or embarrassment with regard to the patent, or if I desired any instruction as to the proper application of ether, he would call with me upon the discoverer, who would render any information I might wish. *Dr. Morton stated again and again that he was not in any way the discoverer of the new application of ether, but that the idea had been first communicated to him by Dr. Jackson, who was its discoverer, and that his (Dr. Morton's) interest in the patent was merely a purchased one, and, moreover, that he had been very lucky, in anticipating all other persons, by first receiving so precious a discovery from the lips of Dr. Jackson.*

From Dr. Morton's admissions and statements, so freely and emphatically made, no doubt was left on my mind that Dr. C. T. Jackson was the sole author of the discovery of etherization. I was very much astonished in learning some time after that the former asserted any claim whatever to the same. Dr. Morton only spoke of himself as the fortunate person, who, by consequence of first receiving the idea of etherization from another, was enabled to secure to himself great pecuniary benefit.

H. J. Payne.

State of New York, Rensselaer County, ss. Personally appeared before me this 12th day of April, A. D. 1848, Horace J. Payne, known to me to be the person who subscribed the foregoing statement in writing, and being by me duly sworn, deposed that the facts therein stated are true.

Joseph White,
Commissioner, &c., for the State of Massachusetts.

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I, Allen Clark, of Coney Island, in the town of Gravesend, County of Kings, and State of New York, depose and say, that in the month of December, of the year eighteen hundred and forty-six, I was engaged in the practice of dentistry at Lansingburg, in the county of Rensselaer, and state aforesaid, that in the early part of that month, after hearing of the discovery of the application of the vapor of ether for the purpose of producing insensibility to pain during operations of a surgical nature, I visited the city of Boston, with the intention of advising with the patentees of the discovery, and purchasing the right to use the same in my own practice.

Immediately upon my arrival in Boston I had an interview with Dr. W. T. G. Morton, and conversed freely with him in relation to the newly-discovered agent, its application, effects, and his privileges under the patent. This conversation was held in Dr. Morton's office, and there were several persons present at the time, and among them Dr. A. Blaisdell, who was acting as the agent of Dr. Morton for the sale of licenses under the patent.

I felt a great deal of doubt and hesitation both in regard to the safety and propriety of applying sulphuric ether for the purposes before mentioned, and also the validity of the patent, and was very particular and minute in my inquiries of Dr. Morton and Dr. Blaisdell.

After some negotiation, I purchased the sole right under the patent for the aforesaid county of Rensselaer, and several of the counties adjoining. During the whole interview, Dr. Morton never claimed to have discovered the new use of ether himself, but left a full and decided impression on my mind that Dr. Charles T. Jackson, of Boston, was its sole discoverer, and that he (Dr. Jackson) had first communicated it to him.

I never should have made the above purchase had I not believed, and been assured, that Dr. Jackson was its discoverer, and that he had pronounced its application to be perfectly safe. I never for an instant suspected, from the representations which were made by Dr. Morton at this interview, that he was in any way connected with the discovery of this new application of sulphuric ether, or that he ever would assert or pretend to any claim to its discovery, but was fully satisfied that Dr. Jackson was its author. I have since been greatly surprised that Dr. Morton should assume to have discovered etherization; since from his own declarations and the representations of his agents, I had drawn an entirely different conclusion. Dr. Morton left the impression on my mind that Dr. Jackson had first discovered the new agent, that he had thereupon communicated it to him, Dr. Morton, who had made the first application of it, and that his interest in the discovery was merely a pecuniary one.

Allen Clark.

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I, John E. Hunt, of Boston, County of Suffolk, and Commonwealth of Massachusetts, dentist, on oath depose and say, that I was an assistant dentist in the office of Dr. W. T. G. Morton, of this city, in the fall of 1846. I think I entered his office early in the month of November of that year. A few days afterwards I took up an inhaler which was lying upon the work-bench, containing a little ether, and breathed from it once or twice; I remarked to Dr. Morton how easily it worked, and asked him to try the instrument himself. He replied that "he would rather not." I inquired of Dr. Morton, if "he had ever inhaled the ether?" He answered "that he *had not, excepting only as he had inhaled it from the atmosphere about him.*" From which language, and the manner in which it was addressed to me, the conviction was inevitable that he had never inhaled its vapor, from a sponge, handkerchief, inhaler, or other instrument.

It was the "common report" of all in the office while I was connected with it, that Dr. Charles T. Jackson, of this city, had made known to Dr. Mor

ton the new application of sulphuric ether, and given him instructions how to use it. Dr. Morton never denied this "common report;" never claimed the new discovery as his own; never, by a hint or expression, led me to infer that he in any sense considered it his own.

A few days after my becoming connected with Dr. Morton's office, in the fall of 1846, one evening, Thomas R. Spear, Jr., one of the boys in the office, asked William Leavitt, I being present at the time, to inhale the ether. Leavitt refused; whereupon, Spear said that "he would inhale it himself, if Leavitt would take the instrument from his mouth, when he had inhaled sufficiently." Spear sat down, and applied the inhaler to his lips; after a few inhalations, he sprung from his chair, seized a stranger who was present, by the waist, and nearly threw him over. Upon coming to, he apologized to the man whom he had handled so rudely, and asked him to excuse him, as "this was the *first time* he had ever taken the ether." I thought it barely possible Spear might have intended this simply as an apology for his rudeness. To satisfy myself, after the stranger had left, I asked Spear "if the ether had ever affected him in the same way before?" "No," he replied, "for *I never took it before.*" Spear had much to say, at the time, of the delightful sensations which the ether had produced upon him. He spoke of them, as those who took the ether for the first time, and were pleasantly affected by it, used always to speak; satisfying my mind, beyond a doubt, that he had never experienced anything of the kind before.

A few days before the occurrence of what I have just stated, I was requested by Spear to accompany him on a walk to East Cambridge; where, as he told me, he was going to execute an order at the Glass House, for Dr. Morton. As we were crossing Cragie's bridge, I asked Spear "where Morton first got hold of the 'gas,'" (the ether went by that name in the office.) Spear then related, that "Dr. Morton had *first* obtained the idea at Dr. Jackson's laboratory, and from Dr. Jackson; that he (Morton) had been directed by Dr. J. to administer the ether to produce insensibility to pain; had tried it on a woman; that it worked first-rate; and that he had since then continued to use it under the directions of Dr. Jackson." I cannot be deceived that Spear intended to communicate distinctly to me that the new discovery belonged exclusively to Dr. Jackson; and that, at the time of this conversation, *he* so believed himself. I soon after repeated Spear's story, but not as coming from Spear, to Mr. Francis Whitman, the brother-in-law of Dr. Morton, and a student in the office. Mr. Whitman gave me to understand that I had *heard the truth;* said "*he had heard the same account himself, and that there was no doubt of the truth of it in his own mind.*"

Dr. Jackson's directions and instructions were made the rule of all of our experiments in Dr. Morton's office. The directions which Dr. Morton sometimes gave us upon his own responsibility, and not as coming from Dr. Jackson, were generally injudicious and rash, and we did not think it safe to follow them.

About the middle of the month of November, (1846,) Dr. Morton stated to me expressly, that "*he had never inhaled the ether.*" I was also connected with Dr. Morton's office in the winter of 1845-6, and in the spring and summer of 1846. I often heard Dr. Morton speak of a great work upon which he was engaged, which, in his own words, "would uptip and monopolize the whole practice of dentistry in the city, and be worth one or two hundred dollars a day to him." This great work he unreservedly mentioned, as being a new "composition for filling teeth, and a new mode of manufacturing and setting them to plate." Morton stated to me, in the summer of 1846, that he had carried this "composition" to a chemist to be analyzed; that it had not yet realized his expectations, but that he should keep on trying to perfect it, until he succeeded; that he was sure to attain to perfection if money and time could effect it; that he had given one dentist of this city, whom I have since understood to be Dr. N. C. Keep, five hundred dollars for information upon the subject; and not being satisfied, had given to another a large sum of money, in order to gain all the information possible. During the summer of 1846 his energies seemed to be almost wholly bent in this direction. He was constantly exhibiting specimens of his manufacture to persons who called at the office.

I never, during the summer of 1846, saw sulphuric ether in Dr. Morton's office, and never perceived its odor there, about his person or otherwise; never heard its name mentioned by Dr. Morton, that I can remember, and never, during either the summer or fall of that year, heard him make a remark which would lead me to infer that he had made sulphuric ether a subject of observation, inquiry, study, or experiment, previous to the 30th of September of that year. *And yet Dr. Morton was communicative and sanguine to an uncommon degree, in relation to whatever particularly interested or occupied his mind.*

In the fall of 1846 I was in the office of Dr. Morton a few weeks only. When I left I spoke to him about going to Havana, with the ether and instruments for him. He told me that he would see Mr. Eddy about it; giving me to understand that Mr. Eddy was interested in the patent, and must first be consulted.

I have heard gentlemen who called at the office to purchase rights under Dr. Morton's patent, speak, in their conversations there, of Dr. Jackson, as the author of the "new discovery," and state that they had been so informed by Dr. Morton himself. I remember, at this moment, a gentleman from Philadelphia, another from Vermont, and a third, I think a Mr. Heald, from Portland, in the State of Maine. Indeed, this was evidently the only opinion entertained or expressed in the office while I was connected with it in the fall of 1846, and Dr. Morton never contradicted it, or intimated that it was not founded wholly upon the truth.

J. E. Hunt.

Suffolk ss. Boston, May 2d, 1848.—Sworn to by the said J. E. Hunt, this day, before me.

S. W. Robinson,
Justice of the Peace.

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I, A. Blaisdell of the city of Boston, County of Suffolk, and Commonwealth of Massachusetts, surgeon dentist, on oath depose and say, that during the summer and fall of the year eighteen hundred and forty six, I was associated in the practice of dentistry with Drs. Ball and Fitch, at No. 34 Tremont Row; that on or about the last of September or the first of October of that year, I met Dr. W. T. G. Morton at Mr. Burnett's apothecary store, No. 33 Tremont Row. This was soon after the application of the vapor of ether for the prevention of pain in operations of a surgical nature.

At that time I had a conversation with Dr. Mor-

ton to the following effect: I asked him how he succeeded in the application of ether. He replied, "Most satisfactorily." I then asked him how he had dared to use an agent so powerful? He told me that he had received the most positive assurance from Dr. C. T. Jackson, that it was perfectly safe. I remarked, "Then you have consulted Dr. Jackson?" He replied in the affirmative, and stated that the idea of employing sulphuric ether, for the purpose before mentioned, was first suggested to him by Dr. Jackson. I asked him thereupon if it was Dr. Jackson who made the discovery. Dr. Morton at once answered "that he did, and that Dr. Jackson had communicated it to him, with instructions as to the proper mode of applying the ether; and that having acted in accordance with his advice, his (Morton's) practice had been successful, the result in every way answering to Dr. Jackson's predictions."

Dr. Morton then told me that he was about taking out a patent upon this new application of ether. I asked him how he could do so, since Dr. Jackson was the discoverer. He replied that he had purchased his right of Dr. Jackson, and that Dr. J. had assigned his whole interest to him; for, said Morton, Dr. J. will have nothing to do with any patent. This ended our conversation at this time.

I met Dr. Morton frequently afterwards, and conversed with him upon the subject of ether. He uniformly made the same declarations, awarding the discovery to Dr. Jackson.

On the first day of Dec. following, Dr. Morton notified me to meet him at Mr. Burnett's. I met him as desired. At this interview Dr. Morton stated that he wished to employ me to work in his office, and also to go abroad and sell licenses to use the "Letheon," so called. The following evening we met again by appointment at his own office, No. 19 Tremont Row. Dr. Morton was at this time associated with Dr. N. C. Keep. Upon his expressing the same wish as on the morning before, and making certain proposals, "we closed a bargain." I entered the office of Drs. Morton and Keep, Dec. 14, A. D. 1846. On that day I went to Nashua, in the State of New Hampshire, to sell rights to use the Letheon. In closing a sale with a gentleman of that town, he objected to the phraseology of the *license*, the plural being used, as though two or more persons were interested in the grant or sale, as follows—"I promise to pay to their order, assigns or legal representatives." The question was asked me why the plural was used, there being but one signature at the conclusion of the license? and also who the person was to whom allusion was made? I answered that Dr. C. T. Jackson was the discoverer of this application of ether, as I had been informed by Dr. Morton, and that he had assigned all of his right and interest under the patent to Morton for a specified sum of money. The gentleman still objected, and called in his counsel, to whom I stated the facts as above; who thereupon advised his client that he could safely make the purchase. I returned to Lowell and sold three or four rights in that city, but encountered the same objection on the part of purchasers. To all of them I made the same statement as above.

Upon my return to Boston, I told Dr. Morton the difficulties in my way, and the statement with which I had opposed them, and asked if I had stated the truth, and the fact as he had given it to me. He replied that I had told the truth, *just as it was*. I also informed Dr. Morton that I found great difficulty in making people believe that ether could be used with safety, unless I gave them assurance, as coming from Dr. Jackson, to that effect. He answered that I must tell them that Dr. Jackson was the discoverer, and that he pronounced it perfectly safe. With this new instruction I started for Providence, Rhode Island, sold the right for that city to two dentists, but was subjected to the same embarrassment as at Nashua and Lowell, and met it in the same way.

On the twenty-first day of December, having returned to Boston, I was in Dr. Morton's office, making preparation, in compliance with his direction, to go to New York, when Dr. Clark, of Lansingburg, in the state of N. Y., called to purchase a right to use the ether. Dr. Clark was very urgent and particular in his inquiries respecting the discovery of this agent and its effects. Dr. Morton told him that Dr. Jackson, the eminent chemist, was *the man* who made the discovery, and that he had given him (Morton) instructions in regard to its use and effect. Dr. Clark then expressed his satisfaction, and a bargain was effected.

Dr. D. S. Blake was present during this conversation. Soon after, I went to New York in company with Dr. Blake. I sold rights under the aforesaid patent in different parts of that state; also in New Jersey, Virginia, and many of the southern and western states. When in Cincinnati, on my return home, in April of the following year, I received a letter from Mr. Edward Warren, stating that Drs. Jackson and Morton were engaged in a controversy respecting the discovery of the use of ether in surgical operations. This was the first intimation I ever had that Dr. Morton was in any way connected with the discovery.

In June or July following, an article appeared in the "Alliance and Visitor," severely censuring Dr. Morton for permitting the term ether, instead of chloric ether, to be used in a certain affidavit which appeared in the pamphlet published by Edward Warren, leaving it to be inferred by the public that sulphuric ether was intended. At this time I had a conversation with Dr. Hayden, about the statement in his affidavit. I asked him if he did not know, when he swore that Dr. Morton had made use of ether, that it was chloric ether. He replied, "I did, but I thought I would write it as I did, and let people draw what inferences they pleased as to the kind used." A few minutes after, Dr. Morton came into the office, and I handed him the article referred to. I asked him what he thought of it. He answered, "that he never told any one that he used sulphuric ether until he received it from Dr. Jackson." I have heard Mr. Edward Warren say that he "did not know or care to whom the discovery belonged, but that he meant to fight it through, and get all the credit for Morton." Both Warren and Morton have told me that he (Warren) was to have one half of the pecuniary profit arising from the discovery.

A. Blaisdell.

Sufeolk, ss. May 27, 1848.—Sworn to before me.

F. K. Bartlett,
Justice of the Peace.

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I, Silas T. Gladwin, of Lowell, County of Middlesex, and Commonwealth of Massachusetts, dentist, on oath depose and say, that on or about the 15th day of December, 1846, Dr. A. Blaisdell, of Boston, called at my office in Lowell, to sell me a right to use the "Letheon," so called; that Dr. Blaisdell then and there stated to me that he was the duly authorized agent of Dr. W. T. G. Morton, of Boston, to sell rights to the said "Letheon."

Dr. Blaisdell, during the interview, stated to me substantially and distinctly as follows. That the idea, that the "Letheon," or vapor of sulphuric ether, would produce insensibility to pain during the performance of operations of a surgical nature, was the discovery of Dr. Charles T. Jackson, of Boston, who had imparted it to Morton, with instructions as to the nature and properties of the ether, the effects which it would produce, and the results which would follow its application; and also, instructions as to the mode in which it was to be applied. That Dr. Jackson being its discoverer, a man of science, and a great chemist, and the experiments which had been made having been according to the directions of Dr. Jackson, and having resulted according to his predictions, I need have no fear as to the perfect safety, practicability, and efficacy of the new agent, in producing insensibility to a sufficient degree, and for a sufficient length of time, to enable me to perform any dental or surgical operation under its influence, without pain to the patient. That Dr. Morton had only bought Dr. Jackson's right to the discovery; had got hold of it before any one else; had first received it from Dr. Jackson, and that he (Morton) was a go-ahead fellow, and would make a fortune out of his, a bargained and purchased, interest in the new discovery.

SILAS T. GLADWIN.

COMMONWEALTH OF MASSACHUSETTS. Middlesex, ss. Lowell, April 20, 1848.—Sworn to before me.

WILLIAM SMITH,
Justice of the Peace.

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I, Samuel Lawrence, of Lowell, County of Middlesex, and Commonwealth of Massachusetts, on oath depose and say, that on or about the 15th of December, 1846, Dr. Alvah J. Blaisdell, of Boston, called at my office in Lowell, and announced himself as the agent of Dr. W. T. G. Morton, of Boston, to sell for him patent rights for the use of the "Letheon," so called. I did not purchase a right of Dr. Blaisdell, for the reason, as I stated at the time, that I had previously used sulphuric ether with good success; that I was perfectly satisfied that it was safe, if judiciously applied. Whereupon, Dr. Blaisdell went on to state that I could not use sulphuric ether, without infringing on the patent which Morton had procured on the "Letheon." I replied that I cared nothing for Morton's patent, for that I did not believe that sulphuric ether was patentable, any more than any other common drug or medicine. Dr. Blaisdell threatened me with prosecution if I used the ether; and upon his offering me a right for seventy-five dollars, I told him I would not give him twenty-five cents for one.

Dr. Blaisdell stated to me that the "Letheon" was perfectly safe; that I might rely upon its safety, for that Dr. Charles T. Jackson, one of the best chemists in the United States, discovered it, and imparted the discovery to Morton; that Dr. Jackson had given Morton directions and instructions how to apply the ether; that Dr. Jackson had also used it himself, and considered it perfectly safe; and that Dr. Morton, by the permission of Dr. Jackson, had taken out his patent.

Dr. Blaisdell gave me distinctly to understand, that Dr. Jackson first discovered the idea that the vapor of sulphuric ether would produce insensibility to pain during surgical operations, and I received from my conversation with Blaisdell the idea that "Letheon" was nothing but sulphuric ether.

SAMUEL LAWRENCE, *Dentist.*

COMMONWEALTH OF MASSACHUSETTS. Middlesex, ss. April 20, 1848.—Sworn to before me,

I. B. ABBOTT,
Justice of the Peace.

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I, Daniel S. Blake of Boston, in the County of Suffolk, and Commonwealth of Massachusetts, dental surgeon, on oath depose and say, that I was, on the twenty-first day of December, 1846, employed by Dr. W. T. G. Morton as his agent to sell patent rights of the "Letheon," or the application of sulphuric ether to the relief of pain attending surgical operations; and in pursuance of my duty, as his agent, I travelled through parts of New York, New Jersey, Connecticut, Pennsylvania, and sold rights to different persons. Under Dr. Morton's instructions, I uniformly said that the application of sulphuric ether to the relief of pain attending surgical operations, was discovered by Charles T. Jackson, M. D., of Boston; that Morton had contrived the instrument with which the ether was applied, and which I carried with me for sale; and that Morton had purchased of Dr. Jackson his interest in the right to use the ether, and with Dr. Jackson's concurrence, Morton took out a patent for the new application of the ether, and was the proprietor of the patent. I was obliged repeatedly to explain to every person to whom I sold a right, who Dr. Jackson was, and who Dr. Morton was. The facts which I communicated I derived from Dr. Morton himself; and I was astonished when I heard that he pretended to be the discoverer of what he had so many times told me had been discovered by Dr. Jackson.

The first time that I had any conversation with Dr. Morton upon the subject of the discovery of the application of sulphuric ether to the relief of pain attending surgical operations was, when the discovery had been but lately made known, viz., in the fall of 1846. It was, I remember, on the day that the operation in surgery was performed at the Bromfield House, in which sulphuric ether was used. I asked Dr. Morton of the origin of the discovery, and he then told me that Dr. Charles T. Jackson had made the discovery, and had communicated it to him a short time previous, and that he first applied it under Dr. Jackson's directions.

Afterwards, on the 22nd day of December, 1846, a few minutes before I started as Dr. Morton's agent to sell patent rights, I heard Dr. Morton explain to Dr. Clark, of Lansingburg, New York, (who was then at Dr. Morton's office, having just purchased of Morton a right to use the "Letheon,") the origin of the discovery; and Dr. Morton then said, that Dr. Charles T. Jackson was the discoverer of the application of sulphuric ether to the relief of pain attending surgical operations, and that he, Morton, had got an interest in the matter by incurring the expense and trouble of securing the patent and obtaining the instrument used in applying the ether; that this instrument he, Morton, invented. Dr. Alvah Blaisdell, dental surgeon, of this city, was present when Dr. Morton explained to Dr. Clark the origin of the discovery, and his connection with Dr. Jackson in the matter.

Dr. W. T. G. Morton always said, and gave me to understand in all my interviews with him, (and I was his agent in selling patent rights for the use of the "Letheon" or sulphuric ether for about two months,) that Dr. Charles T. Jackson was the original discoverer of the application of sulphuric ether to the relief of pain attending surgical operations; that he, Morton, had in the autumn of 1846 first

used sulphuric ether, and then had used it and applied it under the instructions and directions of Dr. Jackson. DANIEL S. BLAKE.

COMMONWEALTH OF MASSACHUSETTS. Suffolk ss. Boston, Aug. 16, 1847.—Then personally appeared before me the above-named Daniel S. Blake, and made solemn oath to the truth of the statement above subscribed by him, before me,

JOHN G. KING,
Justice of the Peace.

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I, J. A. Robinson, of Salem, County of Essex, and Commonwealth of Massachusetts, on oath depose and say, that in the fall of 1846 I called at the office of Dr. W. T. G. Morton, in Boston, to negotiate with him for the purchase of a right to the "Letheon," so called. I spent about an hour in conversation with him. From Morton's conversation I came to the conclusion that Dr. Jackson was the discoverer of the new application of ether. I remember asking Morton, "How he could sell a right to the new agent, *Dr. Jackson having discovered it?*" He replied distinctly and in substance, "that he had purchased of Dr. Jackson the exclusive right to the discovery, and patented it." Morton unreservedly admitted that there was some one *behind himself* connected with the discovery *as its originator*, and that that person was Dr. Charles T. Jackson. I was convinced, from Morton's statements and admissions, that his own interest in the new discovery was *exclusively* a pecuniary interest. He did not seem to consider himself in any sense connected with the originating of the discovery, but seemed to think of nothing but his patent right.

J. A. ROBINSON.

ESSEX, ss.—April 22, 1848.—Subscribed and sworn to before me, A. HUNTINGTON,
Justice of Peace.

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I, Nathan B. Chamberlain, of the City of Boston, County of Suffolk, and Commonwealth of Massachusetts, philosophical instrument maker, depose, that in the summer of the year eighteen hundred and forty-six, Mr. W. T. G. Morton called at my rooms, No. 9 School street, to consult with me in relation to certain apparatus with which he proposed to furnish his office. He first employed me to construct a turning lathe with the usual appliances. Subsequently, and late in the summer, or early in the autumn of that year, Mr. Morton asked me if I could make for him a compound blow-pipe, inasmuch as in the fitting out of a dentist's office that would in his opinion come next. He remarked that he wished to use the blow-pipe in soldering. Mr. Morton then stated that he wanted an instrument which would be snug and convenient, and which he might easily stow away under his table, and asked many questions as to its construction and expense. I told him that he might have a blow-pipe, furnished with India-rubber bags, and these would be both cheap and convenient. Mr. Morton then questioned me with regard to the kind of gas with which he ought to fill the bags, and what would be the cheapest; whether he might employ street gas, and how he himself might make it. During the whole of the conversation no allusion whatever was made to the subject of sulphuric ether, and I feel perfectly confident that he had no idea of using the India-rubber bag for any other purpose than the one before mentioned.

Upon stating to Mr. Morton the expense of a blow-pipe, constructed and furnished in the way described, he objected to my price, and asked if such apparatus was made elsewhere in the city. I referred him to Joseph M. Wightman. He at once asked who Mr. Wightman was, and where he could find him, where his place of business was, &c. Mr. Morton then left my room, and I had no further transactions with him until he sought my assistance in constructing the "ether inhaler," so called. This was in October of the same year. He then called upon me at my place of business, and stated that he was in possession of a "preparation" to produce insensibility to pain during the performance of operations upon the teeth, and wanted me to provide him with some instrument for inhaling it. I believed, from an odor about the person of Mr. Morton, that this preparation was sulphuric ether. I am certain that this was several days after the first of October, of the year 1846. Mr. Morton, by his conversation at the time, gave me every reason to believe that some one other than himself was the discoverer of the "preparation." He said distinctly that it was the suggestion of another, and from Mr. Morton's manner of speaking of Dr. Jackson in connection with the "preparation," as he did quite frequently during the interview, no doubt was left on my mind that Dr. Jackson was the discoverer.

I remember that after Mr. Morton left my room my brother, who was then with me, and was present during the said interview, spoke of the "preparation" as being the idea of Dr. Jackson. We both inferred this from Mr. Morton's conversation with us, during the whole of which he did not mention the name of any other chemist, or any one other than Dr. Jackson, in connection with the discovery which he wished to apply, and did not speak of, or in any way seem to consider, himself as the originator of it. Subsequently, as late as the 13th of October, 1846, he called to get the inhaler, with which I had furnished him, repaired. I knew that it was sulphuric ether for which it had been used.

At this time he gave me no reason to change or modify any impression or belief which I had obtained from him at the former interview.

When I heard that Mr. Morton claimed the discovery as being his own, I was surprised, for it was contrary to my previous convictions and belief, as derived from Morton's own statements. I had never hesitated to pronounce Dr. Jackson the discoverer of the application of ether to the purposes before mentioned.

N. B. CHAMBERLAIN.

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I, David K. Hitchcock, of the City of Boston, surgeon dentist, depose and say, that on the second or third day of October, in the year 1846, I had a conversation with Dr. Charles T. Jackson, upon the application of the vapor of ether to produce insensibility to pain. At this interview, Dr. Jackson related to me the circumstances under which he had communicated the discovery to Dr. W. T. G. Morton, and also gave his opinion relative to the proper, safe, and judicious administration of the new agent.

Dr. Jackson stated distinctly, that he had the utmost confidence in his discovery, and that he had no doubt that even severe surgical operations might be performed upon persons who had inhaled the vapor of pure sulphuric ether, with entire insensibility to pain. He also stated, that the new agent should only be employed by careful and scientific practitioners; and his chief apprehension seemed to be, that its use might be perverted in the hands of the ignorant, reckless, or unskilful, and thereby dangerous results ensue. Dr. Jackson was always very particular in saying, that only pure and highly

rectified ether could be employed with safety. At various subsequent interviews, which I had with Dr. Jackson, during the month of October, he stated to me, that he was opposed to taking out a patent upon his discovery; and, moreover, that he was, in principle, opposed to patenting any new medical agent whatever.

DAVID K. HITCHCOCK.

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I, R. C. Bartlett, of Boston, County of Suffolk, Commonwealth of Massachusetts, depose and say, that I was a member of the family of Dr. Charles T. Jackson, in the summer of 1844; that I am the aunt of Dr. Jackson's wife, and must be the person referred to in Mr. W. T. G. Morton's memoir to the Academy of Sciences at Paris, as published in No. 201 of Littell's Living Age, in Boston aforesaid, and therein styled the aunt of Dr. Jackson, in the paragraph which here follows. "About this time," in the summer of 1844, "the wife and aunt of Dr. Jackson were under my treatment for dental purposes, and it was necessary to extract teeth in each case, the operation being painful, and the ladies showing an unusual degree of sensitiveness. The last named lady, in particular, before the extracting of each tooth, remained several hours in the operating chair, unable to summon courage to endure the operation, and begging to be mesmerized, or that I would give her something to make her insensible. Dr. Jackson was present, and made efforts to encourage the lady, but did not suggest any mode of producing insensibility," &c.

Dr. Jackson was *not present* at the time above alluded to by Mr. Morton, and I am sure that he had no knowledge of the operation until after it had been performed. Everything which Mr. Morton has stated in respect to my reluctance, my begging to be mesmerized, or to be made insensible in any way, and the time of my remaining in the operating chair, is wholly untrue.

I did not remain in his office longer than an hour in all. I subsequently told Dr. Jackson that I had had quite a number of teeth extracted by Mr. Morton, when he expressed great surprise, and great displeasure with Mr. Morton, and thought it unsafe to have so many teeth extracted at one sitting.

Dr. Jackson never was present at any operation performed upon my teeth by Mr. Morton.

R. C. BARTLETT.

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I, Elizabeth Bridge, of Boston, in the Commonwealth of Massachusetts, on oath depose and say, that I am the sister of Rebecca C. Bartlett, and that I went to Mr. Morton's office with her, in June, in 1844, at the time that she had her teeth extracted; that Dr. Jackson was not present, and did not (to my knowledge) know that the said Rebecca C. Bartlett intended to have the operation performed of extracting the teeth.

Signed, ELIZABETH BRIDGE.

COMMONWEALTH OF MASSACHUSETTS. Suffolk, ss. Boston, the twenty-fourth day of March, in the year eighteen hundred and forty-eight.

Then personally appeared the above named Elizabeth Bridge, and made oath that the foregoing affidavit by her subscribed is true. Before me,

ABRAHAM JACKSON, JR.,
Justice of the Peace.

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Boston, May 1, 1847.

DEAR SIR,—In compliance with your request, I offer you the following account of my experiments and observations, made several years ago, on the inhalation of vapor of pure sulphuric ether. I was previously aware, from the experience of others, and from my own experiments, of the kind of intoxication which is produced by the inhalation of that vapor. It was not known at that time, however, that an insensibility could be produced by this agent, of safe and short duration. I moistened a cloth and laid it over my mouth and nostrils, and laid myself back in a rocking-chair, and inhaled the vapor, noticing its effects on the system. The first impression was that of coolness, then a sensation of warmth and exhilaration, with a singular feeling of excitement in the chest. This was followed by a loss of consciousness, from which I in a short time awoke; soon afterwards I entirely recovered from the effects of the ether.

I have frequently inhaled the vapor of sulphuric ether to relieve the irritation occasioned by breathing noxious gases. During the winter of 1841–42, and not long after the experiment above described, I was preparing chlorine gas to be used in a lecture before the Massachusetts Charitable Mechanic Association, and, while collecting the chlorine in large glass bottles filled with boiling water and having their necks immersed in a pneumatic cistern, my assistant, who was holding a bottle, accidentally let it fall, and it broke while my face was quite near to it. I immediately inhaled a large volume of this gas, which nearly suffocated me, so that with great difficulty I got into the house.

As soon as I could get assistance, I sent for sulphuric ether and ammonia, and inhaled them alternately, hoping thus to neutralize the chlorine by the hydrogen of the ether, and the acid so formed by the ammonia. I received some relief for the time, but I was so much depressed, and felt such a weight upon my chest, that I feared I should not be able to give my lecture. I gave it, however, without much difficulty. Afterwards, still suffering from the effects of the chlorine, I thought I would try the ether vapor again, and for a longer time. I went, therefore, into my office, which is connected with my house, and, taking the bottle of pure sulphuric ether from the laboratory, I soaked a folded cloth in it, squeezed it out slightly, and seating myself in a rocking-chair, with my feet resting upon another chair, I commenced inhaling the ether from the cloth, which was placed over my mouth and nostrils, while my head was laid back against my chair, so that I was quite at ease in a fixed position. The effects of the inhalation were as before described, excepting that it made me cough at first. I was, therefore, led to believe, that the paralysis of the nerves of sensation would be so great, during the continuance of the insensibility, that a surgical operation might be performed upon a patient under its influence, without giving him any pain; for the loss of consciousness was remarkable, perhaps resembling that of epilepsy more than any other kind of insensibility. I heard afterwards of other cases of this insensibility accidentally produced, and I became perfectly convinced that the inhalation of the ether would be safe,—an opinion first formed from my own earlier experiments. I now felt prepared to recommend the trial of sulphuric ether vapor for the prevention of pain in surgical operations. The subsequent history of its application to that purpose is known to you from the evidence of others. I will add, that my interest in the respiration of gases

was first excited by Sir H. Davy's experiments, and that since I became acquainted with them, the subject has always seemed to me to deserve further investigation.

I am, with great regard, your friend,
CHARLES T. JACKSON.

DR. MARTIN GAY.

—

I, Samuel A. Bemis, of Boston, in the County of Suffolk, and Commonwealth of Massachusetts, dentist, depose and say, that on or about the twenty-ninth day of September, in the year eighteen hundred and forty-two, I was residing as a boarder at the Mt. Crawford House, at Harts Location, in the County of Coos, and State of New Hampshire. That, on or about the said twenty-ninth day of September, Dr. Charles T. Jackson, of Boston, being at that time engaged in a geological survey of New Hampshire, stopped at the said Mt. Crawford House.

Dr. Jackson had, for some years prior to the above date, been an acquaintance of mine. During some conversation that occurred between Dr. Jackson and myself, at the time and place above mentioned, and in presence of several other gentlemen, among them Mr. William F. Channing, of Boston, then an assistant of Dr. Jackson, various remarks were made respecting my own profession; and the subject of pain and painful operations was introduced by Dr. Jackson, as being incident to its practice. Dr. Jackson then remarked that it was his wish to alleviate or destroy all sensation of pain and suffering during operations of a surgical nature, and asserted that this result would be secured by the introduction of a new mode of practice in such operations. After making several observations upon the importance of some new treatment or agent which would prevent all consciousness of pain, Dr. Jackson said that, if I desired it, he would give or provide me with something which he knew would effect that object, and also proposed to me to introduce the same into my profession. I have no doubt whatever that the plan communicated to me at the time was the same in regard to the substance to be used, viz., sulphuric ether, and in all other respects, as he has since promulgated to the world. Dr. Jackson also remarked that he had been induced to try its effect upon himself, when suffering in consequence of some accident, and that he had been completely successful in its application. To all of which I replied, as a reason why I should not be willing to introduce the use of this new agent into my own practice, that, in such operations as came under my particular care, there was seldom much suffering; and that I had more often found difficulty in impressing my patients with a belief that there was really no necessity for operations, than to persuade them to submit when operations were deemed necessary. In fact, the principle of my practice was to save teeth, and to keep them in the head, rather than to extract them. I had no doubt at the time that Dr. Jackson regarded the successful application of the new agent, above referred to, to the purposes above mentioned, as not only practicable, but quite within the grasp of the scientific operator; and I expected to meet with an account of it at some future day through the scientific journals.

S. A. BEMIS.

Boston, May 20, 1847.

Sworn to before me,
JOSIAH QUINCY, JR.,
Justice of the Peace.

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Boston, April 27, 1848.

MY DEAR SIR,—In reply to your inquiries, yesterday, I have to remark, that I distinctly remember the substance of the conversation which passed between us, in the spring of eighteen hundred and forty-two, concerning sulphuric ether. The conversation took place at your office, where I was passing the evening. Observing that you was suffering from severe pain in the head, I was about to take leave, when you requested me not to do so, remarking, that in ten or fifteen minutes you would probably be free from pain. I replied: "Were I subject to attacks so severe, and of such short duration, I should inhale nitrous oxide." My remark was not intended to be understood seriously. You answered: "Some of your sulphuric ether would be much better;" and added, "Are you aware, that when inhaled it produces complete insensibility?"—or words to this effect.

I was aware of this fact; but, at the time, my impression was, that either nitrous oxide or the vapor of ether, inhaled frequently, would be attended with evil consequences, if not fatal.

The ether to which you referred, was some which I had prepared for use in my private laboratory. It was pure sulphuric ether, and very different from the sulphuric ether of the shops—such as was then only to be found in the market.

With kind regards, I remain, dear Sir,
very truly your friend,
JOHN H. BLAKE.

DR. CHARLES T. JACKSON.

—

I, William Francis Channing, of Boston, in the County of Suffolk, and Commonwealth of Massachusetts, doctor of medicine, affirm that in the month of March, in the year eighteen hundred and forty six, I accidentally inhaled chlorine in the laboratory of Dr. Charles T. Jackson, of Boston. The effect was to produce spasms of the chest and distress of respiration, of such a character as to make me apprehend an immediately fatal result. I at once inhaled the vapor of ammonia and alcohol from the mouth of the vessels containing the same, for the purpose of neutralizing the chlorine, but found very slight relief. I also swallowed some brandy, which gave momentary, but no permanent relief. Dr. Jackson, who had then returned to his office, advised me to try the inhalation of sulphuric (hydric) ether, which he stated that he had himself used with success in an accident of the same kind; and he directed its application by means of a handkerchief. The inhalation of the ether produced an immediate suspension of the spasms, with entire relief from the distress. They recurred again after a time with less violence, but were subsequently entirely removed by occcasional inhalations of ether; so that, in about one hour after the accident, I was enabled to walk from the laboratory without difficulty.

Several days after, inflammation of the lungs resulted from the irritation of the chlorine, connected with exposure to cold. In consequence of the great relief produced in my own case by the inhalation of ether, I recommended it shortly after my recovery, to be used as a remedy in ordinary cases of spasm of the chest.

I have heard Dr. Jackson speak on several occasions of the inhalation of sulphuric (hydric) ether, for producing insensibility to pain during operations of a surgical nature. These conversations with Dr. Jackson took place, according to my recollec-

tion, certainly more than a year and a half ago; and my own impression is very strong, that the earliest communication on this subject took place during the summer or autumn of 1842, while I was acting as assistant with Dr. Jackson on the geological survey of the State of New Hampshire.

WM. F. CHANNING.

SUFFOLK, ss. Boston, May 12, 1847.—Affirmed by the said William F. Channing, before me,

ELLIS GRAY LORING,
Justice of the Peace.

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I, Joseph Peabody, of Salem, in the Commonwealth of Massachusetts, depose and say, that I have been for some time a student in chemistry in the laboratory of Dr. Charles T. Jackson, of Boston; that, in the latter part of the month of Feb., 1846, Dr. Jackson related to me that he had discovered certain remarkable properties in sulphuric ether; that, by freely inhaling it, a state of unconsciousness was produced, with insensibility to pain.

The circumstances under which this communication was made to me were as follows:—I was suffering from a severe toothache; and, intending to have two teeth extracted, a fellow-student urged me to try the power of mesmerism to effect insensibility to pain, offering to attempt to produce the magnetic state. I consented, and he commenced the experiment. While we were thus engaged, Dr. Jackson came into the office, and remarked that it was a loss of time and labor to attempt to repeat the experiments of the mesmerizers; for their insensibility was only a pretence. "If you want to have your teeth extracted without pain," said he, "I have mesmerism bottled up in the other room—in the shape of sulphuric ether." He then repeated to me minutely the effects which would be produced by the inhalation of sulphuric ether. I asked him where he got his information from. He said that he had tried it on himself; that, about four years before, he inhaled it freely with a view of ascertaining the effects of its vapor on the system, and was astonished to find it produced an entire loss of consciousness; that this state speedily passed away, without leaving any unpleasant effects. He said that subsequently, while engaged in preparing some chemical experiments, he accidentally got his lungs full of chlorine, which produced a sudden irritation and severe distress; that, hoping to obtain relief, he applied to sulphuric ether; that he breathed the vapor copiously—having poured the ether upon a cloth which was laid over his mouth. He soon became unconscious and perfectly free from pain, although the trouble in his lungs returned when the effects of the ether had wholly passed off. He urged me to apply the ether when I wished to have my teeth extracted, assuring me of his confidence that I would escape the pain of the operation. He added that ether prepared expressly for the purpose, and freed from its alcohol, would ensure success. I immediately determined to make the trial; and, as I was obliged to return to Salem, I there commenced to re-distill some ether with sulphuric acid.

In the mean time I consulted several chemical and medical works, (in a large scientific library to which I had access,) in relation to the effects of sulphuric ether; and found that all the authorities stated that the action of ether upon the system was injurious, and warned against its use. My father was also averse to my breathing it. I therefore concluded that the operation proposed would not be sufficiently serious to warrant me in using any application pronounced dangerous by high authorities. Upon my return to Dr. Jackson's laboratory, I stated to him the opinion of chemical and medical writers in relation to the use of ether. He said that he was aware of the opinions in the works upon the subject; but, notwithstanding their views, he was satisfied that he was right—that the application of ether would be perfectly harmless, and its effects would be what he had stated.

This was not the only occasion on which the subject of the effects of ether was introduced. He alluded to it in several subsequent conversations, and always with the same confidence, so that when I learned the final success of the application I was not at all surprised.

I returned to Dr. Jackson's laboratory about a week after he had communicated his discovery to Mr. Morton, and since that time have been constantly with him; and I can most positively state that not at any time has he shown the least want of confidence in the importance of his application, and not for a moment did he undervalue it, nor has he ceased to assert his claims as the sole discoverer.

JOSEPH PEABODY.

UNITED STATES OF AMERICA, STATE OF MASSACHUSETTS. COUNTY OF SUFFOLK, ss. City of Boston.—On this eleventh day of May, A. D. eighteen hundred and forty-seven, before me, came Joseph Peabody, and, being duly sworn, did depose and say as within written, and did sign the said within writing, as his deposition in and concerning the matters therein specified.

In witness whereof, I have hereunto set my hand and seal of office, on this said 11th of May, A. D. 1847.

JOHN P. BIGELOW, *Notary Public.*

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I, George O. Barnes, of the City of Boston, and Commonwealth of Massachusetts, on oath depose and say, that Mr. W. T. G. Morton did not, on the thirtieth day of September of the year 1846, take from the laboratory of Dr. Charles T. Jackson a glass tube or flask, or any apparatus whatever for the inhalation of sulphuric ether. This is the day referred to in my former deposition, on which Mr. Morton called upon Dr. Jackson to procure an India rubber bag for the object therein mentioned. I was in the laboratory during the whole time that Mr. Morton remained, and heard the conversation between Dr. Jackson and himself.

He did call two or three days after to procure such apparatus, and Dr. Jackson then gave him the glass flask and tube, with instructions for their use.

GEORGE O. BARNES.

SUFFOLK, ss. Boston, May 2, 1848.—Sworn to this day by the said George O. Barnes, before me,

S. W. ROBINSON,
Justice of the Peace.

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I, George O. Barnes, of Plymouth, in the Commonwealth of Massachusetts, depose and say, that in the fall of 1846 I was a student in chemistry with Dr. Charles T. Jackson; that in the month of September I was at work in the back room of Dr. Jackson's laboratory when Mr. W. T. G. Morton passed through the room, as I supposed to go into the house which adjoins the laboratory. He soon returned, having in his hand an India rubber bag belonging to Dr. Jackson. As he went into the apparatus or glass room, I heard Dr. Jackson ask

Morton what he wanted to do with the bag. He replied that he had a refractory patient who would not allow him to take out her tooth, and that he wished to act on her imagination so as to induce her to submit to the operation; that he meant to fill the bag with air, meaning, as I understood, atmospheric air, which would give it a formidable appearance. He then asked how he should go to work to distend the bag. "The lungs or a pair of bellows," said Dr. Jackson, "can do that." "But," continued Dr. Jackson, "your proposition, Morton, is very absurd; the patient will not be deceived in that way; you will produce no result, and will be denounced as an impostor."—"I don't know that," replied Morton: "I think with this bag under my arm, well blown up, that I could make her believe anything." While saying this, he placed the bag under his arm, and, pressing the bag with his elbow several times, illustrated the manner in which he would operate. "If I could once get her mouth open," said Morton, "I would have her tooth out. Why," said he, "a man once bled to death by the mere force of imagination." As he was proceeding to give an account of this experiment, Dr. Jackson interrupted him, and said, "Pooh! you don't credit such a story as that, surely! I advise you to have nothing to do with this idea of using atmospheric air to deceive your patients; it will only injure you." Morton replied, "I don't care. I 'll blow it up." Morton then left Dr. Jackson, and was going from the glass room, where the latter part of the conversation had been principally held, into the front room towards the street door, with the bag swinging in his hand, when Dr. Jackson followed him, took the bag from his hand, and threw it on the floor. There had been also some conversation concerning nitrous oxide, but not one word concerning sulphuric ether; and Morton had not asked Dr. Jackson to suggest to him anything to prevent pain during his operations of extracting teeth. Dr. Jackson then addressed him, and said, "Now, Morton, I can tell you something that will produce a real effect. Go to Mr. Burnett's, the apothecary, and get some very strong sulphuric ether, the stronger the better; spatter it on your handkerchief, put it to your patient's mouth, take care that it be well inhaled, and in a minute or two perfect insensibility will be produced." "Sulphuric ether!" said Morton, "what is that? Is it a gas? Have you got any of it? Show it to me." Dr. Jackson went to the laboratory case, and took down the bottle of sulphuric ether, which Morton examined and smelt of as though he had never seen the article before, saying, it was "queer smelling stuff." "Are you sure," said Morton, "that this will do it?" "Yes," replied Dr. Jackson, "I am sure." The rest of the Doctor's reply I did not hear, as I passed into the other room for some purpose, being engaged at the time in analytical work. Afterwards I heard Morton several times repeat, "Are you sure it will do it?" He even asked Mr. McIntyre, another student in the laboratory, and myself, if we thought it would do it. "Won't it hurt the patient?" said he. "No," replied Dr. Jackson, "it will not do any harm; for I have tried it on myself." He then briefly described his own experiments and the effects, and said "that the patients, after breathing a dozen breaths, would fall back in the chair insensible; and you can do with them as you please, without their knowing anything about it, or feeling any pain; so that you can take out their teeth at your leisure." Dr. Jackson distinctly said, "It will not do the least injury, I assure you." Indeed, Dr. Jackson urged the matter very earnestly and with perfect confidence, taking on himself the whole responsibility. He urged Morton to try it on himself, saying that it was the only way to convince himself. "Shut yourself up," said he, "in your room, and breathe it as I have directed." At the same time, Dr. Jackson, taking a handkerchief and bottle in his hands, went through the movement of applying the ether to it, and, placing the handkerchief to his mouth, made several deep inhalations, saying, "This is the way you must take it." Morton then left, promising to try it immediately. After Morton left, the students in the laboratory conversed considerably about the proposed experiment; and some one asking the question whether Morton would succeed, Dr. Jackson said confidently, "He will, if he follows my directions."

Either on the afternoon of the same day, or the next day, I am not positive which, Morton came to announce the success of his trial. He stated that he tried it on a patient with complete success; for, while he extracted a tooth, the person was insensible, and knew nothing about it. Dr. Jackson expressed no surprise, but appeared as if he had expected this result. Mr. Morton intended soon to perform another extraction. Dr. Jackson then said to him, "You must go to Dr. Warren, and obtain his permission to administer it at the Massachusetts General Hospital, and if possible it should be on a capital operation; for people will not believe in the insensibility to pain in case of a mere tooth, since it is very common for patients in an ordinary case to say that it did not hurt them, when the twitch is very sudden, and the operation skilfully performed: this proof would not be regarded by the public as satisfactory." Morton strongly objected at first to going to the hospital—that everybody could smell the ether, and it would not be kept secret, which it was Morton's object to do. He asked if something could not be put into it which would conceal the ether odor. Dr. Jackson replied, "Yes; some French essence, as the oil of Neroli, may answer in a measure, and a pleasant perfume will be left on the patient;" remarking, laughingly, "The scent of the roses will hang round him still." After some argument, and Dr. Jackson's further insisting upon it, Morton promised to go to the hospital.

In the course of this conversation, Morton repeatedly begged the doctor to keep the matter a secret. "No!" answered Dr. Jackson, "I will have no secrets with my professional brethren. I intend to give Dr. Keep the same information which I have given to you;" and, in point of fact, every one who afterwards came to get information on the subject was at once told all about it.

Some time after this, when the experiments had proved successful at the hospital and elsewhere, and while the patent was being negotiated, the right of using the ether having been assigned to Morton, Dr. Jackson urged him in my presence to present the free use of it to the hospital, saying that they would not buy a patented article, and it ought to be given to the poor. Morton was very reluctant to do this, and asked if there were not some pay patients at the hospital who could afford to remunerate him for administering the ether. This was argued a long time, and Morton finally said that he would do so.

A few days after, Morton called at the office, when Dr. Jackson was not in, with a glass bulb in his hand, having only two openings. He proposed to fasten an India rubber bag upon one of the open-

ings to contain the sulphuric ether, a sponge to be placed in the bulb, and the patient to inhale the ether from the other opening; there being no aperture for the admission of atmospheric air. His intention was, he told us, that the patient should breathe the ether vapor pure, without admixture of atmospheric air. I told him of the indispensability of atmospheric air, knowing very well that it would be dangerous to breathe ether vapor without the common air being mixed with it. He was told, also, that the ether would dissolve the India rubber. He then said that he would stop the opening with a cork, instead of the bag; intending still to exclude the common air.

Some time after, I heard Dr. Jackson speak of Morton's being reckless. He had heard that Morton did not manage well in the administration of the ether. Dr. Jackson expressed his opinion that it ought to be in the hands of careful and skilful persons. In fact he was sorry that he had communicated his discovery to Morton, and that he had employed him to make those early experiments with the ether. He spoke strongly upon these points.

GEORGE O. BARNES.

BOSTON, May 21, 1847.—Sworn before me,

JOSIAH QUINCY, JR.,
Justice of the Peace.

—

I, James McIntyre, of Bangor, in the State of Maine, depose and say, that in the month of September, 1846, I was a student in chemistry with Dr. Charles T. Jackson, of Boston. In the latter part of September, I was sitting in the front room or office of Dr. Jackson's laboratory, when Mr. W. T. G. Morton came in and asked for Dr. Jackson, and passed through the office into the house adjoining the laboratory. In a short time Morton came into the back room with an India rubber bag in his hands, and passed through into the glass room. Dr. Jackson came in with him, or shortly afterwards. Dr. Jackson asked Morton what he wanted with the bag. He said he wished to blow up the bag, and act upon a patient's imagination by making her breathe from the bag. The precise words of Morton's answer I do not remember; but the purport of it was, that he wanted to extract some teeth from a lady who objected on account of the pain, and that he expected, by making her breathe from the bag, to believe that she would suffer no pain from the extraction of her teeth. In order to show the effect of imagination, he gave an account of an experiment upon two criminals, one of whom was bled to death; and the other, having his arm pricked and warm water poured upon it, died from the effect of the imagination. Dr. Jackson said that it was absurd, and never occurred. He told Morton that it would be useless to try that, as he could not act upon her imagination; and, if he failed, she would set him down as a humbug. There was then some conversation about the use of exhilarating gas, whether it was first mentioned by Dr. Jackson or Morton, I do not remember. Morton asked if he could not make it. Dr. Jackson told him that he could not succeed without apparatus and the assistance of some one who had some chemical knowledge; and that, if he undertook to make it, he would get nitric oxide instead of nitrous oxide. He asked Dr. Jackson if he could not prepare some for him; this Dr. Jackson declined to do, on account of his business. Morton was then going away with the bag, and I have no doubt intended to use the bag by distending it with atmospheric air.

As he was going, Dr. Jackson told him that he could tell him something that would make the patient insensible, and then he could do what he had a mind to with them. Morton asked what it was. Dr. Jackson then told him to go to Burnett's, and get some pure sulphuric ether, and pour it on a handkerchief, and put it to the patient's mouth and let her inhale it. Morton asked what sulphuric ether was, what kind of looking stuff it was. I stayed in the front room while Morton and Dr. J. went to look at the ether. From Morton's question about the ether, I am satisfied that he knew nothing about its properties or nature. I heard Morton ask Dr. Jackson very particularly whether it would be safe to use it. Dr. Jackson assured him that it was perfectly safe, and alluded to the students at Cambridge having used it. Morton appeared to be afraid to use the ether, and asked him several times if it was safe. Dr. Jackson advised Morton to try it himself. Morton asked me if I would be willing to take it. I told him that I would. The whole conversation between Dr. Jackson and Morton I did not hear, as I was not all the time in the room with them. But I felt sure, from the conversation I had heard, that he came to the laboratory without any idea of using ether, or anything else which would destroy sensibility to pain; that he knew nothing about its properties; that the effect which ether would produce was communicated to him by Dr. Jackson; and that he was induced to try it only by the repeated assurances of Doctor Jackson, that it would produce insensibility, and could be administered with safety. The next day after the above conversation, Morton came into the office, and told Dr. Jackson that the ether had worked nicely; that the patient suffered no pain.

During the time that I was in Dr. Jackson's laboratory, I never heard him express any doubt about the effect which ether would produce in causing insensibility to pain, but have heard him say that it ought to be administered with care, and by persons acquainted with the nature of it.

Signed,

JAMES MCINTYRE.

UNITED STATES OF AMERICA, STATE OF MASSACHUSETTS. County of Suffolk, ss. City of Boston.—On this first day of April, A. D. 1847, before me, came James McIntyre, and, being duly sworn, did depose and say as within written, and did sign the said within writing, as his deposition in and concerning the matter herein specified.

In witness whereof, I have hereunto set my hand and seal of office, on this said 1st of April, A. D. 1847. Signed,

JOHN P. BIGELOW,
Notary Public.

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I, James McIntyre, of the city of Boston, County of Suffolk, and Commonwealth of Massachusetts, on oath depose, that I was in the laboratory of Dr. Charles T. Jackson, on the thirtieth day of September, A. D. 1846, on which day Mr. W. T. G. Morton called to procure an India rubber bag for the purpose declared in my deposition of April 1, A. D. 1847. Mr. Morton did not to my knowledge ask for or take from the laboratory a glass tube and flask of any description whatever, which I should certainly have known if he had.

A few days after the said 30th day of September, on the 2d or 3d day of October, Mr. Morton did call and take from the laboratory the above named apparatus.

JAMES MCINTYRE.

Suffolk ss. Boston, May 2, 1848.—Sworn to this day by the said James McIntyre, before me,

S. W. Robinson,
Justice of the Peace.

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Boston, May 18, 1848.

Dear Sir: — In answer to your inquiries I would state that on the twenty-sixth day of October, A. D. 1846, Dr. Jackson sent his sister, Mrs. Ralph Waldo Emerson, to my office, to have a painful dental operation performed. She requested me, in Dr. Jackson's name, to administer the vapor of ether, but, first, to obtain Mr. Morton's permission, as he had recently purchased her brother's pecuniary interest in this discovery.

A short time afterwards I had an interview with Dr. Jackson, at which he expressed the most entire confidence in his discovery, and asserted that sulphuric ether, when judiciously administered, was perfectly harmless, and that any surgical operations might be performed upon persons subject to its influence, with complete unconsciousness of pain. Dr. Jackson stated, however, that he very much regretted having first intrusted his discovery to Mr. Morton, and having transferred to him the sole right to apply the agent, for his ignorance of its nature, and his recklessness in ordering its application, might be the occasion of injurious, if not fatal consequences.

Very respectfully,
N. C. Keep.

Dr. Charles T. Jackson.

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I, N. C. Keep, of Boston, in the County of Suffolk, and Commonwealth of Massachusetts, dental surgeon, having been called upon by Dr. Charles T. Jackson, depose and say, that on the twenty-eight day of November, in the year eighteen hundred and forty-six, I became associated in the business and practice of dentistry with Dr. W. T. G. Morton, of said Boston, which connection continued from that date until the thirty-first day of December following; during that period the vapor of ether was administered almost daily to our patients, for the purpose of producing insensibility to pain in dental operations. It was his practice, during that time, to administer the ether, without any adequate provision for the admission of atmospheric air, and whenever operations were performed by other persons in the office, and under his supervision, he directed its application in the same way; by consequence of which, many of the operations, at that time, were unsuccessful, and great distress and suffering were induced. All of *his* apparatus for the inhalation of ether was so constructed that it was a matter, in my opinion, of absolute uncertainty, whether the patient could receive sufficient atmospheric air to prevent asphyxia. Dr. Morton appeared to be in no sense aware of the importance of admitting atmospheric air. I believe that he was not at all well acquainted with the nature, properties, and safe and proper application, of the vapor of ether, and he was certainly, in my opinion, reckless in its use, expressing the most perfect unconcern as to its effects upon the subjects of his practice, provided they were only made insensible.

Contrary to his clearly and unequivocally expressed wishes and opinion, it was my practice during the "thirty days," to make ample provision for the admission of atmospheric air, while administering the vapor of ether, and I advised the assistants to make the same provision; but they, being influenced by his directions and known wishes, did not, at all times, follow my advice. I remonstrated with Dr. Morton in reference to his mode of practice in this respect, till I found it of no avail.

With my first acquaintance with the use of the vapor of ether, for the purposes above mentioned, I was perfectly satisfied of the expediency, if not absolute necessity, of admitting atmospheric air during its inhalation, and I immediately, and have ever since, used it in that way, and in no other way.

N. C. Keep, M. D.

Commonwealth of Massachusetts. Suffolk, ss. Boston, May 24, 1847.—Then personally appeared the within named N. C. Keep, and made oath that the foregoing affidavit, by him subscribed, is true. Before me, Jona. Chapman,
Justice of the Peace.

[The following statement of the laws, as recognized by scientific men, by which conflicting claims to discovery are to be determined, and the application of those laws to the facts developed in the preceding pages, has been kindly furnished to Dr. Jackson, by Mr. Joseph Hale Abbot, a member of the American Academy of Arts and Sciences. It is believed that his conclusions will be found to be a fair and logical deduction from the facts which are taken by him as the basis of his argument.]

PRINCIPLES RECOGNIZED BY SCIENTIFIC MEN APPLIED TO THE ETHER CONTROVERSY.

Before entering upon the subject to be discussed, it is necessary to premise, that the error into which Dr. Jackson, through undue confidence in the judgment of a solicitor of patents, was led, of supposing that the first painless extraction of a tooth by Mr. Morton from a patient under the influence of sulphuric ether, constituted him in the technical and legal sense of the term a joint discoverer with himself of etherization, is entirely irrelevant to the question now under consideration past events and their relations to each other and to truth, which never changes, cannot be affected by the subsequent false judgments of the actors in those events, or of anybody else concerning them.

It should be further remarked, that discovery, in the sense in which it will be used in the sequel, and invention or discovery, in the sense of the patent laws, are two quite distinct things. Patents are issued, not on the mere ground of scientific discovery, but of useful, original application of discovery. Had Sir Humphrey Davy merely discovered certain scientific principles, and another man, without any scientific discovery whatever, first applied those principles to use, in the construction of a safety lamp, the latter alone would, under the patent laws of this country and of Great Britain, have been entitled to a patent for the invention. It is the more important to bear this distinction in mind, inasmuch as some of the gentlemen who advocate Mr. Morton's claims, have fallen into great confusion of thought, from overlooking it. An able writer in the Edinburgh Review fully sustains this view of the subject, and goes so far as to say, that "proofs of prior discovery are available, though not *disclosed* at the time."

In the purely inductive sciences, under which category the physiological discovery of etherization falls, discoveries of new truths may be divided into four classes: —

1. Discoveries, in which the only element is a legitimate and true induction from the experiments and observations of others. Watt's discovery of the composition of water, belongs to this class. From the experiments and observations of Cavendish, repeated by Priestley and communicated by him to Watt, the latter inferred that water is composed of the two gases now known by the names of oxygen and hydrogen. The truth of his induction was never admitted by Priestley; nor by Monge, a distinguished member of the rench Academy, till he had added the evidenc o of analysis to that of synthesis. On the ground of the above induction, Arago and Dumas in France, Dr. Henry, Lord Brougham, Sir David Brewster, and the author of an able article in the Edinburgh Review, and other men in Great Britain of like authority in matters of science, award this brilliant discovery to Watt. Among scientific men, there are only three known dissentients from this award, Harcourt, Peacock, and Whewell; the two former of whom, (Whewell's grounds of dissent are not known to the writer,) claim the discovery for Cavendish on the ground, though there is no evidence of the fact, that he must have made the deduction from his experiments himself. This difference of opinion relates to a question of fact, not of principle. To this same class belongs, also, Black's discovery of carbonic acid gas; in reference to which Whewell thus remarks: — "This discovery consisted, of course, in a new interpretation of observed changes;" in other words, of an induction from facts previously ascertained. It appears, therefore, that if Dr. Jackson had legitimately deduced the conclusion, that the inhalation of pure sulphuric ether, would safely and surely prevent pain in surgical operations, solely from the observations and experiments of *others*, his claim to the discovery of etherization would have been complete.

2. Discoveries deduced by their authors from, and fully verified by, their own experiments and observations. Davy's discovery of the metallic base of potassa, and Black's discovery of latent heat, are examples of this class.

3. Discoveries suggested by an existing, but discredited popular belief. To this class belongs the discovery of vaccination. Jenner generalized the element of truth, which he alone, of all the neighboring physicians, had the sagacity to perceive in the belief of the milk-maids of Sodbury in Gloucestershire, — that those who had had the cow-pox would never have the small-pox. By a legitimate deduction from his own observations and experiments, he made the great discovery, that the virus of an eruptive disease of the cow, intro, duced by artificial means into the human system confers immunity from the most destructive disease to which humanity is subject. This discovery, like that of etherization, required verification on an extended scale; but mankind have decided that this detracts nothing from the exclusiveness, o f Jenner's claims to the discovery.

4. Discoveries legitimately deduced from the experiments and observations of their authors, but requiring, for their complete verification, further experiments, devised, but not performed, by themselves, and committed by them, with full instructions for their performance, to others. To this class belongs Dr. Franklin's discovery of the identity of electricity and lightning; in reference to which a writer in the Edinburgh Encyclopædia uses these words: "Posterity have unanimously agreed in associating with this brilliant discovery his [Franklin's] name." Dr. Franklin was the first to infer by a process of inductive reasoning, founded partly on the results of his own experiments, and partly on facts observed by others, the identity of electricity and lightning; and he also pointed out the means of verifying his induction by actual experiment. In pursuance of his directions, Dalibard erected a rod at Marly-la-ville, near Paris, and employed Coiffier, an ex-dragoon, to watch it. The latter, following the instructions given him, took the electric spark from the rod, and thus became the first verifier of Franklin's discovery. Franklin's experiment with the kite was performed a month later; that experiment and others similar to it, performed soon afterwards, were but the further verification of a discovery already complete. A writer in the Encyclopædia Americana justly says: — "To him [Franklin] belongs exclusively the glory of the [above mentioned] discovery."

Dr. Jackson's discovery of etherization belongs to the same class with that of Franklin, with this difference, that his claims are, in several important respects, much stronger. No one had before him, as was truly and without contradiction affirmed, at a large meeting of the French Academy, ever conceived the idea of using sulphuric ether to prevent pain in surgical operations; whereas other writers before Franklin had perceived and clearly pointed out many striking analogies between electricity and lightning.

The very experiment devised by Franklin and performed by Coiffier, had often been performed, more than a hundred years before, by a sentinel who mounted guard on one of the bastions of the castle of Duino, on the Adriatic sea, and who, whenever he observed indications of an approaching storm, took a halberd, always ready for the purpose, applied it to an iron rod standing in a vertical position, and on observing sparks, or "a small gerb of fire" at its point, rung a bell to warn the peasants in the fields, and the fishermen at sea, to betake themselves to a place of shelter.

Dr. Jackson also *personally* instructed Mr. Morton respecting the anæsthetic properties of ether, and how to perform the experiment committed to him, and expressly assumed all the *responsibility* of the experiment. Further, his deductions were made, in much greater part than Franklin's, from his own original observations. This will be seen by the following letter, written in reply to a request made by the writer to Dr. Jackson for a statement of all the observed effects upon himself of sulphuric ether, so far as he could recollect or had recorded them, together with a specification of *the grounds* of the induction, which has resulted in the complete discovery of etherization. Such a statement he has never before attempted to draw up for publication.

Boston, May 19th, 1848.

Joseph Hale Abbot, Esq.,

Dear Sir,

I cheerfully comply with your request for a more minute statement than I have hitherto published, of the effects produced upon me by sulphuric ether, when I inhaled it for relief from the distress occasioned by the inhalation of chlorine, in the winter of 1841 – 42; and also a statement of the precise grounds, which I have never published, of the idea then conceived by me, that pure sulphuric ether could be used, with safety and success, to prevent pain in surgical operations. I will add, that in my published letter to Dr. Gay, I neglected, through inadvertence, to state one of my principal reasons, — which as will be seen by his pamphlet, I had mentioned to him in conversation, — for the inference I drew from my observations. The experiment referred to above, in the course of which I observed that sulphuric ether produced insensibility to pain, was as follows: — Having taken a bottle of pure sulphuric ether from my laboratory, I went into my office, soaked a folded cloth with it, squeezed it out slightly, and seated myself in a rocking chair. Having laid my head back against the rocking chair, with my feet supported in another, so as to give me a fixed position, I placed the cloth over my mouth and nostrils, and commenced inhaling the ether. The effects perceived by me were at first a little coughing, — a sensation of coolness, then warmth and fulness of the head and chest, — exhilaration and giddiness, — numbness, or want of feeling in the feet and legs, — a swimming sensation, as if I had been afloat in the air, together with a loss of all feeling of the rocking chair in which I was seated, — loss of all sensation of pain in the throat and chest, — a state of reverie, and soon entire unconsciousness, for a space of time unknown to me. Recovering, I felt a sense of giddiness, but with no desire to move, — found the cloth I had moistened with ether, had dropped from my mouth, — had no feeling of pain in the throat and chest, but began to feel a strange thrilling in the body. In a short time, I felt the soreness in the throat gradually returning, and the distress in the chest also, though much less than it had been before. From the cessation of all pain, and the loss of all feeling of external objects, a little while *before* and *after* the loss of entire consciousness, I was led to infer, that the paralysis of the nerves of sensation would be so great during the continuance of the unconsciousness and the total loss

of feeling, that a surgical operation could be performed upon a patient, under the full influence of ether, without giving him any pain; and, therefore, I prescribed it, with entire confidence in the result. The effects observed in a previous experiment, in which I had inhaled sulphuric ether in order to notice its effects upon the system, were, with the exception of coughing, and relief from pain, similar to those I have just described. I had inhaled ether on other occasions, but not to such a degree as to produce loss of consciousness; and always, as well as in the two experiments I have spoken of, without injurious or disagreeable consequences. I heard afterwards of cases of stupor, accidentally produced, which, although universally represented as dangerous, and attended with unpleasant effects from the administration of alcoholic ether, yet so far from impairing my confidence, added to my conviction of the safety of inhalation, when pure sulphuric ether should be used.

I am, sincerely, your friend,

CHARLES T. JACKSON.

That a being, invested with a material body, should, with a total loss of sensation to external objects, have the full possession of consciousness, both before and after the period of unconsciousness, — a mode of existence, which, till it was observed by Dr. Jackson, was never imagined to be posssible in a state of health, far less to be producible at pleasure, and that without danger, — is a most remarkable fact; and if, in connection with it, the reader bear in mind that this state was preceded, accompanied, and followed by entire cessation of pain; — and also that Dr. Jackson had repeatedly inhaled pure sulphuric ether, without the slightest unpleasant consequences; he will, it is not doubted, be ready to admit, that the inference drawn from these facts by Dr. Jackson, was a perfectly legitimate one: — "That, the paralysis of the nerves of sensation would be so great during the continuance of the unconsciousness, and the total loss of feeling, that a surgical operation could be performed upon a patient, under the full influence of the ether, without giving him any pain." Let it be observed, that all that is necessary to the legitimacy of a philosophical induction, is, that it should be logically drawn from the observed facts of the case, and that it should possess, not demonstrative or moral certainty, but probability sufficient to produce belief.* If this principle be admitted, — and he must be a bold man who will deny it, — Dr. Jackson's inference must be acknowledged to have been a legitimate induction.

They who deny its legitimacy will be compelled to concede to Dr. Jackson a discernment, akin to the wonderful sagacity which led Newton to infer the combustible nature of the diamond, and the existence of an inflammable substance in water, from their effects upon light. All that is essential in this connection, is the undeniable fact, that he made the induction, and that the result of the experiment devised by him and committed for performance to Mr. Morton, has verified its truth. This, as the world has decided, is all that is required to render a title to discovery decisive and complete. No scientific man will doubt, that if the science of chemistry had been sufficiently advanced to enable Newton to verify his conjecture by an experiment, devised and committed by him to another person, the discovery of the combustibility of the diamond would belong exclusively to him.

The absurdity of setting up a claim to discovery, or even to participation in it, for the mere performance of experiments devised and suggested by others, is set in a clear point of view by the fact, that Priestley did not, to the end of his life, acknowledge the validity of the discovery deduced from his own repetition of Cavendish's experiments. Dr. Henry J. Bigelow uses the following language: "He who verifies the suggestion is the true discoverer." Let us suppose that the experiments performed by Priestley had been performed to verify a "suggestion" of Watt: — Will any one say that, either in the actual or in the supposed case, Priestley was, in any degree whatever, the discoverer of a truth in which he never believed? Can the hands discover a truth which the mind repudiates? Is discovery the act, not of intellect, but of the muscles? — Does not the discovery of a truth necessarily involve a perception of it as such, and consequently belief in it? Was Coiffier, — and not Franklin, as "mankind have unanimously agreed," — the true discoverer of the identity of electricity and lightning?

It has been said, and with truth, that from the facts expressly admitted, or not denied by Mr. Bowditch, the discovery of etherization may be shown to belong to Dr. Jackson. Admitting, for a moment, as contended by Mr. Bowditch, Mr. Morton's alleged study of the anæsthetic properties of sulphuric ether, and his alleged experiments therewith, previous to Sept. 30, 1846, to have had an actual existence, the case will stand thus: — Dr. Jackson, long before Mr. Morton had ever even thought of sulphuric ether as an agent for preventing pain, drew from his experiments and observations the conclusion, that the inhalation of pure sulphuric ether was safe, and would prevent pain in surgical operations;—further, he had fully devised and prescribed to others an experiment for verifying his conclusion, and well nigh persuaded Mr. Peabody to try it upon himself. Mr. Morton, also, having conceived the idea that sulphuric ether might be used for the aforesaid purpose, had administered it a few times to produce insensibility, but with no such success as to have

* Nothing can be conceived less pertinent than the question put to Dr. Jackson: "Did you *know* at such time, that after a person had inhaled ether, and was asleep, his flesh could be cut with a knife without his experiencing any pain?" No philosopher would answer in the affirmative such a question in respect to any induction whatever, requiring verification by experiment

induced him to apply it for the prevention of pain, in the dental operations he was daily performing. In order to overcome the difficulties he met with, he sought, by artful and indirect means, information from Dr. Jackson; affecting, all the while, not to know even whether ether was a gas or a liquid, and inducing Dr. Jackson to assume, in express terms, all the *responsibility* of an experiment which he, without the least suspicion of Mr. Morton's duplicity, instructed him fully how to perform; which he committed to him for performance as his own, and which Mr. Morton accepted as such, intending, however, at the same time, should the experiment be successful, to claim the great discovery verified by it for himself. Mr. Morton goes to his room, and with the aid of the new knowledge obtained from Dr. Jackson, he pulls a tooth without causing pain. It is submitted that *on moral grounds* he is forever estopped from afterwards claiming that experiment as his. He has by acts stronger than words, agreed to perform it as Dr. Jackson's experiment; and he can morally no more release himself from that contract, than he can from a positive legal contract. He is equally estopped on scientific grounds from claiming the experiment as his. It is different in two points essential to its safety and success, from any which Mr. Morton *could*, from his ignorance, as appears from the testimony of Barnes and others, and from his own admissions, have previously himself devised; namely, the purity of the ether from alcohol and acids, and the admixture of atmospheric air. For a knowledge of these cardinal facts, Mr. Morton was indebted wholly to Dr. Jackson; through ignorance of them, and of the simple mode of administering the ether prescribed by him to Mr. Morton, and still used in the hospital in this city, many eminent surgeons' early experiments with ether in England and France, were for the most part failures. Even Liston, the great English surgeon, is represented, in the London Lancet, to have said that "at one time he had doubts about the utility of ether," in consequence of the faulty manner in which it had been administered in his operations. From what has been said it necessarily follows, that inasmuch as the experiment was neither in a moral nor in a scientific sense, Mr. Morton's, the discovery verified by it was in no sense his, either.

Again, it is an admitted principle among scientific men, that it is not essential to the validity of claims to prior discovery against those of a later date, that it should first be disclosed, or that its truth should be acknowledged even by a single individual. This principle is taken for granted by all the eminent men of science in Great Britain, who have taken part in the controversy, respecting the rival claims of Watt and Cavendish. It is agreed by all, that if Cavendish had left evidence in his private note book, that he made the deduction alleged by his friends, though without disclosing it, in the year 1781, which Watt made in the year 1783, his claims to priority of discovery would be beyond dispute. Harvey left a manuscript containing an outline of his discovery of the circulation of the blood, dated twelve years before he published that discovery to the world. No man of science will deny that that manuscript, if authenticated, would have been decisive evidence of priority of discovery against any claims of a later date. Now, to say nothing of earlier facts, it is undeniable that Dr. Jackson communicated to Mr. Peabody and others in February, 1846, his induction respecting the anæsthetic properties of sulphuric ether, and gave to him complete instructions for verifying it, and that too several months before Mr. Morton's alleged experiments with sulphuric ether. On grounds similar to these, so far as verification by another person is concerned, the world has adjudged to Dr. Franklin the exclusive honor of his brilliant discovery; and it remains yet to be shown that on Mr. Bowditch's own admissions, Dr. Jackson's claims to the original discovery of etherization are not equally good. This view of the case is confirmed, not less by the obvious suggestions of common sense, than by the unanimous decisions, in similar cases, of scientific men. All that remained to be done, to verify the discovery, was, to perform with the hands a prescribed act, and watch and report the result. To attribute scientific discovery to the mere performance of such an act, were no less absurd, than to ascribe it to the shepherd's dog that, in obedience to the teachings of his master, barks to give notice of the expected approach of the wolf. All that is intended to be shown by these remarks, is, that according to principles admitted by scientific men, Dr. Jackson's claim to the intellectual glory of the discovery of etherization was complete, when he communicated his induction and experiment to Mr. Peabody, in February, 1846,—inasmuch as nothing but verification by an experiment already devised, was required to complete it.

It has been objected that Dr. Jackson could not have made his induction at the time he is positively proved to have made it, because he was not more prompt to announce it to the world. They who argue thus, manifest great ignorance of the history of science. The objection, if admitted to be valid, would be subversive, in not a few cases, of the most clearly established rights of discovery. Harvey, as has been seen, did not announce to the world his great discovery, till twelve years after it had been made. It was more than a quarter of a century after Jenner had conceived the idea of vaccination, and sixteen after his friend John Hunter was accustomed to allude to his views in his lecture room in London, before he made the direct application of vaccine matter, in the manner which is now common. It is well known that Newton forebore to publish most of his great discoveries, for many years after they were made. The same cautiousness in regard to

the publication of his discoveries characterized Wollaston in a remarkable degree, as it has many other minds of the highest order. Much of this same cautiousness is known to belong to Dr. Jackson, and hence the confidence with which his discoveries are received in Europe at their first announcement. It is neither very graceful nor very grateful, in the recipients of a gift of inappreciable value, to quarrel with the donor about the time or the manner of his bestowing it.

The reader is now prepared to judge what confidence is due to the following assertions. Mr. Bowditch says in his Report: "He [Mr. Morton] certainly administered it [sulphuric ether] to a patient. *By so doing he made the discovery.*" The reader is requested to observe that the last sentence is italicized by Mr. Bowditch himself. Mr. Dana says, Dr. Jackson "discovered nothing." Dr. Henry J. Bigelow says, as we have seen: "He who verifies the suggestion is the true discoverer."

Before these gentlemen can make good these assertions, they must show that a great original discovery can be made in the inductive sciences, without a single original experiment; without a single independent, original observation; without a single philosophical induction, the essential, the only common element, as has been seen, in all discoveries in the inductive sciences; without, in fine, originating a single new idea. The most Mr. Morton can claim, is, not in any degree, discovery, but performance, verification, endeavors to introduce into practical use the discovery of another man. To all who, *by fair and honorable means*, by their influence, their acts, or by verification, have promoted the diffusion of one of the greatest blessings that humanity has received at the hands of science, belongs the glory of participating in a noble undertaking.

The author has now completed a labor performed in the midst of pressing occupations, and in such haste, as to leave little opportunity for revision, and none for condensation. He is aware that much which he has written will seem, to persons conversant with the principles of inductive science, to be a work of supererogation. It is proper, therefore, to say, in apology for the numerous, and, he fears, prolix illustrations by which he has sought to render himself intelligible to unscientific readers, that the erroneous notions prevalent in this community, respecting what constitutes scientific discovery, and the consequent withholding from Dr. Jackson of what is due to him, were thought to demand a somewhat careful consideration. The author may be permitted to add, that he had no intimate acquaintance with Dr. Jackson before the commencement of the present controversy; and that he has been prompted to make this effort in behalf of what he deems the cause of truth and justice, by his sympathy for him as an injured man and benefactor of his species; and by his conviction that a conspiracy, unparalleled in the history of scientific discovery, and so far successful as to have deceived many upright and honorable men, has been formed to rob him, not merely of his rights of discovery, but of his fair fame as a man. The final judgments of mankind are generally right; and it cannot be doubted that they will ultimately do full justice to the benefactor to whom they owe so much.

J. H. A.

Temple Place, May 26, 1848.